A.S.D.GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

Affiliated to Adikavi Nannaya University

Jagannaickpur, Kakinada.

DEPARTMENT OF COMPUTER SCIENCE

BRIDGE COURSE

2025-2026

A.S.D.GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

Affiliated to Adikavi Nannaya University

Jagannaickpur, Kakinada.

DEPARTMENT OF COMPUTER SCIENCE

Activity Register 2025-2026

Date	**22-09-2025 to 25-09-2025**
Conducted through (DRC/JKC/ELF/NCC/NSS/Department etc.,)	**Department of Computer Science**
Nature of Activity (seminar/workshop/exten Lecture etc)	**BRIDGE COURSE** **I B.Com. (Computer Applications)**
Title of the Activity	**Introduction to Computing**
Name of the Department/ Committee	**Department of Computer Science**
Details of Resourc persons (Name, Designation etc.,)	**N.Naga Subrahmanyeswari M.Tech.,(Ph.D).** Lecturer in Computer Science **V.Rama Tulasi** Guest Lecturer in Computer Applications **G.Sowmya** Guest Lecturer in Computer Applications
No. of students participated	**30**
Brief Report on the activity	To get the students acquainted with the computer fundamentals and skills to enhance their caliber in computer skills.
Name of the Lecturers who planned & conducted the activity	**N.Naga Subrahmanyeswari M.Tech.,(Ph.D).** Lecturer in Computer Science **V.Rama Tulasi** Guest Lecturer in Computer Applications **G.Sowmya** Guest Lecturer in Computer Applications
Signature of the Department In-charge/ Convener of the Committee	N.N.S.Eswari INCHARGE DEPT. OF COMPUTER SCIENCE KAKINADA
Signature of the Principal	PRINCIPAL A.S.D.GOVT.DEGREE COLLEGE (W) AUTONOMOUS KAKINADA
Remarks	

PERMISSION LETTER

Kakinada,
Date: 18-09-2025.

To,
Dr. V.Anantha Lakshmi,
Principal,
A.S.D. Govt. Degree College for Women (A),
Kakinada.

From,
N.N.Subrahmanyeswari,
Incharge of Department of Computer Science,
A.S.D. Govt. Degree College for Women (A),
Kakinada.

Sub: Request to conduct the Bridge Course on "Introduction to Computing" for I B.Com.(CA) students from **22-09-2025 to 25-09-2025**-Reg.

Respected Madam,

The Department of Computer Science wishes to organize the Bridge course on "Introduction to computing" with a duration of 6 days from **22-09-2025 to 25-09-2025** for all I B.Com.(CA) students. This course aims to make the students get acquainted with the fundamentals of Computer Skills and learn the basics of programming language so that the students will have a developed foundation in the subjects they will encounter, thereby minimizing the challenges of knowledge gaps. Please consider the request to conduct the Bridge course for the students.

Thanking you, Madam.

N.N.S.Eswari
INCHARGE
DEPT. OF COMPUTER SCIENCE
A.S.D.GOVT. DEGREE COLLEGE (WOMEN) AUTONOMOUS
KAKINADA

Yours faithfully,

CIRCULAR

A.S.D.GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

Affiliated to Adikavi Nannaya University

Jagannaickpur, Kakinada.

DEPARTMENT OF COMPUTER SCIENCE

CIRCULAR

Date: 19-09-2025

The Department of Computer Science wishes to organize the Bridge Course on "Introduction to Computing" from **22-09-2025 to 25-09-2025** for I B.Com.(Computer Applications) students to enhance their Skills on Computers, Basics of Computer Fundamentals and basics of Programming.

- **Timings : 3.00 PM to 4.PM**

N.N.S. Eswari
INCHARGE
DEPT. OF COMPUTER SCIENCE
ASD GOVT DEGREE COLLEGE (WAUTONOMOUS)
KAKINADA

Incharge of the Department

PRINCIPAL
A.S.D.GOVT.DEGREE COLLEGE (W)
AUTONOMOUS
KAKINADA

Principal

A.S.D.GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

Affiliated to Adikavi Nannaya University

Jagannaickpur, Kakinada.

DEPARTMENT OF COMPUTER SCIENCE

BRIDGE COURSE

on

"Introduction to Computing"

The Department of Computer Science conducted Bridge course for I B.Com. (Computer Applications) students who did have knowledge about basics of computer fundamentals and Programming Constructs. With this 4-Day course the students get acquainted with the basics, where in the total introduction of the syllabus is covered and thereby the student can rise to a level to apprehend the subject.

OBJECTIVIES:

- To understand basics of computers and working with operating systems.
- To acquire basic skills needed to operate a computer.
- To be able to get fundamental knowledge on Programming constructs.
- To be able to identify the importance of inculcating Programming Skills to excel in the field of Computer Science.

A.S.D.GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

Affiliated to Adikavi Nannaya University

Jagannaickpur, Kakinada.

DEPARTMENT OF COMPUTER SCIENCE

ATTENDANCE SHEET

S.No	Name of the Student	22-09-25	23-09-25	24-09-25	25-09-25
1	Shaik Sabiha	P	P	P	P
2	Shaik Kadharunnisa	P	P	P	P
3	Jartha Bhavani	P	P	P	P
4	Bobbarada Yamini	P	A	P	P
5	Randa Mouni Sri	P	P	P	P
6	Piradi D.V.Lakshi	P	P	P	P
7	Pemmadi Usha Sri	P	P	A	P
8	Donka Reshma	P	P	P	P
9	Kasarapu Kodanda Vani	P	P	P	P
10	Tokala L.Jaya Varshitha	P	A	P	P
11	Ryali Prasanth	P	P	P	A
12	Yalla Sri Durga Malleswari	P	P	P	P
13	Ventru Mahalakshmi	P	P	P	P
14	Viswanandula Veera Mani	P	P	P	P
15	Vanamadi Swapna Sri	P	P	P	P
16	Gollapalli Lavanya	A	P	P	P
17	Vittanala Sandhya	P	P	P	P
18	Madiki Rani	P	P	A	P
19	Bunga Sailaja	P	P	P	P
20	Ulagati Sneha	P	P	P	P
21	Kalavala Sameera	P	A	P	P
22	Thathapudi Yestheru Rani	P	P	P	A
23	Gosala Suhasini	P	P	P	P
24	Srimanthula Chinnathalli	P	P	P	P
25	Manupati Rani	P	P	P	P
26	Thota Hasini	P	P	A	P
27	Yamalapalli Swetha Harika	P	P	P	A
28	Nakka Saranya	A	P	P	P
29	Kandikatla Vasavi Sangeetha	P	P	P	P
30	Rasani Tejaswini	P	P	P	P

IN-CHARGE
DEPT. OF COMPUTER SCIENCE
KAKINADA

Signature of the HOD

A.S.D.GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

Affiliated to Adikavi Nannaya University

Jagannaickpur, Kakinada.

DEPARTMENT OF COMPUTER SCIENCE

BRIDGE COURSE

2025-2026

INTRODUCTION TO COMPUTING

S.NO	DATE	SYLLABUS
01	22-09-2025	❖ INTERDUCION TO COMPUTERS AND FUNDAMENTALS
02	23-09-2025	❖ CLASSIFICATION & WORKING OF COMPUTERS
03	24-09-2025	❖ GENERATIONS OF COMPUTERS
04	25-09-2025	❖ BASICS TO PROGRAMMING LANGUAGES

Signature of the HOD

A.S.D.GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

Affiliated to Adikavi Nannaya University

Jagannaickpur, Kakinada.

DEPARTMENT OF COMPUTER SCIENCE

BRIDGE COURSE TIME TABLE

I B.Com Honours (Computer Applications)

2025-2026

INTRODUCTION TO COMPUTING

DAY	TIMINGS
22-09-2025 Monday	3.00 P.M to 4.00 P.M
23-09-2025 Tuesday	3.00 P.M to 4.00 P.M
24-09-2025 Wednesday	3.00 P.M to 4.00 P.M
25-09-2025 Thursday	3.00 P.M to 4.00 P.M

N.N.S.Eswari
INCHARGE
DEPT. OF COMPUTER SCIENCE
ASD GOVT DEGREE COLLEGE (W) (AUTONOMOUS)
KAKINADA

Signature of the HOD

A.S.D.GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

Affiliated to Adikavi Nannaya University

Jagannaickpur, Kakinada.

DEPARTMENT OF COMPUTER SCIENCE

BRIDGE COURSE 2025-2026

Introduction to Computing

Signature Sheet

S.No	Name of the Student	Class	Student Signature
1	Shaik Sabiha	I B.Com.(CA)	S. Sabiha
2	Shaik Kadharunnisa	I B.Com.(CA)	S. Kadharunnisa
3	Jartha Bhavani	I B.Com.(CA)	J. Bhavani
4	Bobbarada Yamini	I B.Com.(CA)	B. yamini
5	Randa Mouni Sri	I B.Com.(CA)	R. mouni sri
6	Piradi D.V.Lakshi	I B.Com.(CA)	P. D.V. Lakshi
7	Pemmadi Usha Sri	I B.Com.(CA)	P. Usha Sri
8	Donka Reshma	I B.Com.(CA)	D. Reshma
9	Kasarapu Kodanda Vani	I B.Com.(CA)	K. Vani
10	Tokala L.Jaya Varshitha	I B.Com.(CA)	T. Varshitha
11	Ryali Prasanth	I B.Com.(CA)	R. prasanth
12	Yalla Sri Durga Malleswari	I B.Com.(CA)	Y. Malleswari
13	Ventru Mahalakshmi	I B.Com.(CA)	V. Mahalakshmi
14	Viswanandula Veera Mani	I B.Com.(CA)	V. Veera mani
15	Vanamadi Swapna Sri	I B.Com.(CA)	G. Lavanya
16	Gollapalli Lavanya	I B.Com.(CA)	V. Swapna Sri
17	Vittanala Sandhya	I B.Com.(CA)	V. Sandhya
18	Madiki Rani	I B.Com.(CA)	M. Rani
19	Bunga Sailaja	I B.Com.(CA)	B. Sailaja
20	Ulagati Sneha	I B.Com.(CA)	U. Sneha
21	Kalavala Sameera	I B.Com.(CA)	K. Sameera
22	Thathapudi Yestheru Rani	I B.Com.(CA)	T. yestheru Rani
23	Gosala Suhasini	I B.Com.(CA)	G. suhasini
24	Srimanthula Chinnathalli	I B.Com.(CA)	S. chinnathalli
25	Manupati Rani	I B.Com.(CA)	M. Rani
26	Thota Hasini	I B.Com.(CA)	T. Hasini
27	Yamalapalli Swetha Harika	I B.Com.(CA)	Y. Harika
28	Nakka Saranya	I B.Com.(CA)	N. Saranya
29	Kandikatla Vasavi Sangeetha	I B.Com.(CA)	K. vasavi sangeetha
30	Rasani Tejaswini	I B.Com.(CA)	R. Tejaswini

N.N.S. Eswar IN-CHARGE

Signature of the HOD

COURSE MATERIAL

A.S.D.GOVERNMENT DEGREE COLLEGE FOR WOMEN (A)

Affiliated to Adikavi Nannaya University

Jagannaickpur, Kakinada.

DEPARTMENT OF COMPUTER SCIENCE

BRIDGE COURSE 2025-2026

Introduction to Computing

Introduction to Computers:

A **computer** is an electronic device that accepts data from the user, processes it, produces results, displays them to the users, and stores the results for future usage.
Data is a collection of unorganized facts & figures and does not provide any further information regarding patterns, context, etc. Hence data means "unstructured facts and figures".

Information is a structured data i.e. organized meaningful and processed data. To process the data and convert into information, a computer is used

Computer Fundamentals:

Computer is an advanced electronic device that takes raw data as an input from the user and processes it under the control of a set of instructions (called program), produces a result (output), and saves it for future use. Computer fundamentals tutorial provides basic and advanced concepts of Bootstrap. Computer is an *electronic device* i.e. used *to work with information or compute*. It is derived from the Latin word "computare" which means to calculate. Our Computer fundamentals tutorial includes all topics of Computer fundamentals such as input devices, output devices, memory, CPU, motherboard, computer network, virus, software, hardware etc.

Basic Fundamental of Computer:

- Step 1 − Accepts data as input.
- Step 2 − Saves the data/instructions in its memory and utilizes them as and when required.
- Step 3 − Execute the data and convert it into useful information.
- Step 4 − Provides the output.

Computer Architecture:

Computer architecture can be defined as a set of rules and methods that describe the functionality, management and implementation of computers. To be precise, it is nothing but rules by which a system performs and operates.

Sub-divisions

Computer Architecture can be divided into mainly three categories, which are as follows −

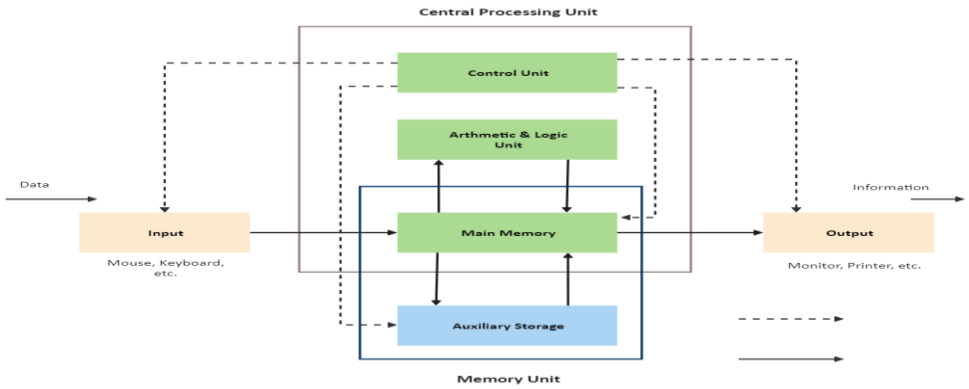
- **Instruction set Architecture or ISA** − Whenever an instruction is given to processor, its role is to read and act accordingly. It allocates memory to instructions and also acts upon memory address mode (Direct Addressing mode or Indirect Addressing mode).
- **Micro Architecture** − It describes how a particular processor will handle and implement instructions from ISA.
- **System design** − It includes the other entire hardware component within the system such as virtualization, multiprocessing.

Structure

Let us see the example structure of Computer Architecture as given below.Generally, computer architecture consists of the following −

- Processor
- Memory
- Peripherals

All the above parts are connected with the help of system bus, which consists of address bus, data bus and control bus.



Components of Hardware and Software:

Hardware

Hardware, which is abbreviated as HW, refers to all physical components of a computer system, including the devices connected to it. You cannot create a computer or use software without using hardware. The screen on which you are reading this information is also hardware. Some of the commonly used hardware in your computer are described below:

Computer Components:

Components of Input / Output devices

Input devices:

Following are some of the important input devices which are used in a computer −

- Keyboard
- Mouse
- Joy Stick
- Light pen
- Track Ball
- Scanner
- Graphic Tablet
- Microphone
- Optical Character Reader(OCR)
- Bar Code Reader
- Optical Mark Reader(OMR)

Keyboard

Keyboard is the most common and very popular input device which helps to input data to the computer. The layout of the keyboard is like that of traditional typewriter, although there are some additional keys provided for performing additional functions.

Keyboards are of two sizes 84 keys or 101/102 keys, but now keyboards with 104 keys or 108 keys are also available for Windows and Internet.

The keys on the keyboard are as follows −

Mouse

Mouse is the most popular pointing device. It is a very famous cursor-control device having a small palm size box with a round ball at its base, which senses the movement of the mouse and sends corresponding signals to the CPU when the mouse buttons are pressed.

Generally, it has two buttons called the left and the right button and a wheel is present between the buttons. A mouse can be used to control the position of the cursor on the screen, but it cannot be used to enter text into the computer.

Advantages

- Easy to use
- Not very expensive
- Moves the cursor faster than the arrow keys of the keyboard.

Joystick

Joystick is also a pointing device, which is used to move the cursor position on a monitor screen. It is a stick having a spherical ball at its both lower and upper ends. The lower spherical ball moves in a socket. The joystick can be moved in all four directions.

The function of the joystick is similar to that of a mouse. It is mainly used in Computer Aided Designing (CAD) and playing computer games.

Light Pen

Light pen is a pointing device similar to a pen. It is used to select a displayed menu item or draw pictures on the monitor screen. It consists of a photocell and an optical system placed in a small tube.

When the tip of a light pen is moved over the monitor screen and the pen button is pressed, its photocell sensing element detects the screen location and sends the corresponding signal to the CPU.

Scanner

Scanner is an input device, which works more like a photocopy machine. It is used when some information is available on paper and it is to be transferred to the hard disk of the computer for further manipulation.

Output Devices:

Following are some of the important output devices used in a computer.

- Monitors
- Graphic Plotter
- Printer

Monitors

Monitors, commonly called as **Visual Display Unit** (VDU), are the main output device of a computer. It forms images from tiny dots, called pixels that are arranged in a rectangular form. The sharpness of the image depends upon the number of pixels.

There are two kinds of viewing screen used for monitors.

- Cathode-Ray Tube (CRT)
- Flat-Panel Display

Cathode-Ray Tube (CRT) Monitor

The CRT display is made up of small picture elements called pixels. The smaller the pixels, the better the image clarity or resolution. It takes more than one illuminated pixel to form a whole character, such as the letter ‘e’ in the word help.

A finite number of characters can be displayed on a screen at once. The screen can be divided into a series of character boxes - fixed location on the screen where a standard character can be placed. Most screens are capable of displaying 80 characters of data horizontally and 25 lines vertically.

There are some disadvantages of CRT −

- Large in Size
- High power consumption

Flat-Panel Display Monitor

The flat-panel display refers to a class of video devices that have reduced volume, weight and power requirement in comparison to the CRT. You can hang them on walls or wear them on your wrists. Current uses of flat-panel displays include calculators, video games, monitors, laptop computer, and graphics display.

The flat-panel display is divided into two categories −

- **Emissive Displays** − Emissive displays are devices that convert electrical energy into light. For example, plasma panel and LED (Light-Emitting Diodes).
- **Non-Emissive Displays** − Non-emissive displays use optical effects to convert sunlight or light from some other source into graphics patterns. For example, LCD (Liquid-Crystal Device).

Printers

Printer is an output device, which is used to print information on paper.

There are two types of printers −

- Impact Printers
- Non-Impact Printers

Impact Printers

Impact printers print the characters by striking them on the ribbon, which is then pressed on the paper.

Characteristics of Impact Printers are the following −

- Very low consumable costs
- Very noisy
- Useful for bulk printing due to low cost
- There is physical contact with the paper to produce an image

These printers are of two types −

- Character printers
- Line printers

Character Printers

Character printers are the printers which print one character at a time.

These are further divided into two types:

- Dot Matrix Printer(DMP)
- Daisy Wheel

Computer Memory:

A memory is just like a human brain. It is used to store data and instructions. Computer memory is the storage space in the computer, where data is to be processed and instructions required for processing are stored. The memory is divided into large number of small parts called cells. Each location or cell has a

unique address, which varies from zero to memory size minus one. For example, if the computer has 64k words, then this memory unit has 64 * 1024 = 65536 memory locations. The address of these locations varies from 0 to 65535.

Memory is primarily of three types −

- Cache Memory
- Primary Memory/Main Memory
- Secondary Memory

Cache Memory

Cache memory is a very high speed semiconductor memory which can speed up the CPU. It acts as a buffer between the CPU and the main memory. It is used to hold those parts of data and program which are most frequently used by the CPU. The parts of data and programs are transferred from the disk to cache memory by the operating system, from where the CPU can access them.

Advantages

The advantages of cache memory are as follows −

- Cache memory is faster than main memory.
- It consumes less access time as compared to main memory.
- It stores the program that can be executed within a short period of time.
- It stores data for temporary use.

Disadvantages

The disadvantages of cache memory are as follows −

- Cache memory has limited capacity.
- It is very expensive.

Primary Memory (Main Memory)

Primary memory holds only those data and instructions on which the computer is currently working. It has a limited capacity and data is lost when power is switched off. It is generally made up of semiconductor device. These memories are not as fast as registers. The data and instruction required to be processed resides in the main memory. It is divided into two subcategories RAM and ROM.

Characteristics of Main Memory

- These are semiconductor memories.
- It is known as the main memory.
- Usually volatile memory.
- Data is lost in case power is switched off.
- It is the working memory of the computer.
- Faster than secondary memories.
- A computer cannot run without the primary memory.

Secondary Memory

This type of memory is also known as external memory or non-volatile. It is slower than the main memory. These are used for storing data/information permanently. CPU directly does not access these memories, instead they are accessed via input-output routines. The contents of secondary memories are first transferred to the main memory, and then the CPU can access it. For example, disk, CD-ROM, DVD, etc.

Characteristics of Secondary Memory

- These are magnetic and optical memories.
- It is known as the backup memory.
- It is a non-volatile memory.
- Data is permanently stored even if power is switched off.
- It is used for storage of data in a computer.
- Computer may run without the secondary memory.
- Slower than primary memories.

Working of Computer:

A computer takes input from the user, processes it according to instructions, and displays the result to the user through its output device. The computer is used to store a large amount of data or to store data at high speed.

Operating System:

An **Operating System** (OS) is an interface between a computer user and computer hardware. An operating system is a software which performs all the basic tasks like file management, memory management, process management, handling input and output, and controlling peripheral devices such as disk drives and printers. An operating system is software that enables applications to interact with a computer's hardware. The software that contains the core components of the operating system is called the **kernel**.

The primary purposes of an **Operating System** are to enable applications (spftwares) to interact with a computer's hardware and to manage a system's hardware and software resources.

Some popular Operating Systems include Linux Operating System, Windows Operating System, VMS, OS/400, AIX, z/OS, etc. Today, Operating systems is found almost in every device like mobile phones, personal computers, mainframe computers, automobiles, TV, Toys etc.

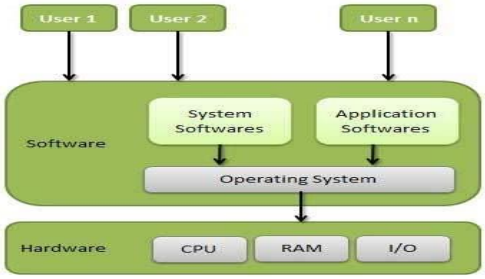
Definitions

We can have a number of definitions of an Operating System. Let's go through few of them:

An Operting System is the low-level software that supports a computer's basic functions, such as scheduling tasks and controlling peripherals.

Architecture

We can draw a generic architecture diagram of an Operating System which is as follows:



Software

Software is a set of programs, which is designed to perform a well-defined function. A program is a sequence of instructions written to solve a particular problem.

There are two types of software −

- System Software
- Application Software

System Software

The system software is a collection of programs designed to operate, control, and extend the processing capabilities of the computer itself. These software products comprise of programs written in low-level languages, which interact with the hardware at a very basic level. System software serves as the interface between the hardware and the end users.Some examples of system software are Operating System, Compilers, Interpreter, Assemblers, etc.

Here is a list of some of the most prominent features of a system software −

- Close to the system
- Fast in speed
- Difficult to design
- Difficult to understand
- Less interactive
- Smaller in size
- Difficult to manipulate
- Generally written in low-level language

Application Software

Application software products are designed to satisfy a particular need of a particular environment. All software applications prepared in the computer lab can come under the category of Application software. Application software may consist of a single program, such as Microsoft's notepad for writing and editing a simple text. It may also consist of a collection of programs, often called a software package, which work together to accomplish a task, such as a spreadsheet package.

Examples of Application software are the following −

- Payroll Software
- Student Record Software
- Inventory Management Software
- Income Tax Software
- Railways Reservation Software
- Microsoft Office Suite Software
- Microsoft Word
- Microsoft Excel
- Microsoft PowerPoint

Features of application software are as follows −

- Close to the user
- Easy to design
- More interactive
- Slow in speed
- Generally written in high-level language
- Easy to understand
- Easy to manipulate and use
- Bigger in size and requires large storage space

Classification of Computers:

Computer scan is broadly classified by their speed and computing power.

Sr.No.	Type	Specifications
1	PC (Personal Computer) or Micro-Computers	It is a single user computer system having a moderately powerful **microprocessor**. It is termed as a computer that is equipped microprocessor as its **CPU**.
2	Workstation	It is also a single user computer system, similar to the personal computer, however, has a more powerful microprocessor.
3	Mini-Computer	It is a multi-user computer system, capable of supporting hundreds of users simultaneously.

Sr.No.	Type	Specifications
4	Main Frame	It is a multi-user computer system, capable of supporting hundreds of users simultaneously. Software technology is different from minicomputer.
5	Super-Computer	It is an extremely fast computer, which can execute hundreds of millions of instructions per second.

PC (Personal Computer)

A PC can be defined as a small, relatively inexpensive computer designed for an individual user. PCs are based on the microprocessor technology that enables manufacturers to put an entire CPU on one chip. Businesses use personal computers for word processing, accounting, desktop publishing, and for running spreadsheet and database management applications. At home, the most popular use for personal computers is playing games and surfing the Internet.

Workstation

The workstation is a computer used for engineering applications (**CAD/CAM**), desktop publishing, software development, and other such types of applications which require a moderate amount of computing power and relatively high-quality graphics capabilities.
Workstations generally come with a large, high-resolution graphics screen, a large amount of **RAM**, inbuilt network support, and a graphical user interface. Common operating systems for workstations are **UNIX**, and **Windows NT**. Like PC, workstations are also single-user computers like PC but are typically linked together to form a local area network, although they can also be used as stand-alone systems.

Minicomputer

It is a midsize multi-processing system capable of supporting up to 250 users simultaneously.

Mainframe

The mainframe is very large in size and is an expensive computer capable of supporting hundreds or even thousands of users simultaneously. Mainframe executes many programs concurrently and supports much simultaneous execution of programs.

Supercomputer

Supercomputers are one of the fastest computers currently available. Supercomputers are very expensive and are employed for specialized applications that require an immense amount of mathematical calculations (number-crunching).

For example, weather forecasting, scientific simulations, (animated) graphics, fluid dynamic calculations, nuclear energy research, electronic design, and analysis of geological data (e.g. in petrochemical prospecting).

Genarations of Computers:

The development of computer systems is normally discussed as the development over different generations.

First Generation

- The period 1940 to 1956, roughly considered as the First Generation of Computer.
- The first generation computers were developed by using vacuum tube or thermionic valve machine.
- The input of this system was based on punched cards and paper tape; however, the output was displayed on printouts.
- The first generation computers worked on binary-coded concept (i.e., language of 0-1). **Examples:** ENIAC, EDVAC, etc.

Second Generation

- The period 1956 to 1963 is roughly considered as the period of Second Generation of Computers.
- The second generation computers were developed by using transistor technology.
- In comparison to the first generation, the size of second generation was smaller.
- In comparison to computers of the first generation, the computing time taken by the computers of the second generation was lesser.

Third Generation

- The period 1963 to 1971 is roughly considered as the period of Third Generation of computers.
- The third generation computers were developed by using the Integrated Circuit (IC) technology.

- In comparison to the computers of the second generation, the size of the computers of the third generation was smaller.
- In comparison to the computers of the second generation, the computing time taken by the computers of the third generation was lesser.
- The third generation computer consumed less power and also generated less heat.
- The maintenance cost of the computers in the third generation was also low.
- The computer system of the computers of the third generation was easier for commercial use.

Fourth Generation

- The period 1972 to 2010 is roughly considered as the fourth generation of computers.
- The fourth generation computers were developed by using microprocessor technology.


Fourth Generation

- By coming to fourth generation, computer became very small in size, it became portable.
- The machine of fourth generation started generating very low amount of heat.
- It is much faster and accuracy became more reliable.
- The production cost reduced to very low in comparison to the previous generation.
- It became available for the common people as well.

Fifth Generation

- The period 2010 to till date and beyond, roughly considered as the period of fifth generation of computers.
- By the time, the computer generation was being categorized on the basis of hardware only, but the fifth generation technology also included software.
- The computers of the fifth generation had high capability and large memory capacity.
- Working with computers of this generation was fast and multiple tasks could be performed simultaneously.
- Some of the popular advanced technologies of the fifth generation include Artificial intelligence, Quantum computation, Nanotechnology, Parallel processing, etc.

Fifth Generation

Programming language

A **programming language** is a formal language, which comprises a set of instructions that produce various kinds of output. Programming languages are used in computer programming to implement algorithms.

Most programming languages consist of instructions for computers. There are programmable machines that use a set of specific instructions, rather than general programming languages. Early ones preceded the invention of the digital computer, the first probably being the automatic flute player described in the 9th century by the brothers Musa in Baghdad, during the Islamic Golden Age.[1] Since the early 1800s, programs have been used to direct the behavior of machines such as Jacquard looms, music boxes and player pianos.[2] The programs for these machines (such as a player piano's scrolls) did not produce different behavior in response to different inputs or conditions

Types of Programming Language:

There are three types of programming languages

1. Low-level programming language

Low-level language is machine-dependent (0s and 1s) programming language. The processor runs low- level programs directly without the need of a compiler or interpreter, so the programs written in low-level language can be run very fast.

Low-level language is further divided into two parts -

i. Machine Language

Machine language is a type of low-level programming language. It is also called as machine code or object code. Machine language is easier to read because it is normally displayed in binary or hexadecimal form (base 16) form. It does not require a translator to convert the programs because computers directly understand the machine language programs.

The advantage of machine language is that it helps the programmer to execute the programs faster than the high-level programming language.

ii. Assembly Language

Assembly language (ASM) is also a type of low-level programming language that is designed for specific processors. It represents the set of instructions in a symbolic and human-understandable form. It uses an assembler to convert the assembly language to machine language.

The advantage of assembly language is that it requires less memory and less execution time to execute a program.

2. High-level programming language

High-level programming language (HLL) is designed for developing user-friendly software programs and websites. This programming language requires a compiler or interpreter to translate the program into machine language (execute the program).

High-level programming language includes Python, Java, JavaScript, PHP, C#, C++, Objective C, Cobol, Perl, Pascal, LISP, FORTRAN, and Swift programming language.

A high-level language is further divided into three parts -

LANGUAGE TRANSLATORS

Compiling and linking

• Before a program can be executed, three steps are usually necessary: usually necessary:

– Preprocessing. The preprocessor obeys commands that begin with # (known as directives)

– Compiling. A compiler translates then translates the program into machine instructions (object code). – Linking. A linker combines the object code produced by the compiler with any additional code needed to yield a complete executable program.

• The preprocessor is usually integrated with the compiler. Copyright © 2008 W. W. Norton & Company

Compiler

A **compiler** is a special program that processes statements written in a particular programming language and turns them into machine language or "code" that a computer's processor uses. Typically, a programmer writes language statements in a language such as Pascal or C one line at a time using an editor

Interpreter

In computer science, an *interpreter* is a computer program that directly executes instructions written in a programming or scripting language, without requiring them previously to have been compiled into a machine language program.

DATA TYPES

A data type is a classification of data which tells the compiler or interpreter how the programmer intends to use the data. Most programming languages support various types of data, including integer, real, character or string, and Boolean.[1]

A major part of understanding how to design and code programs is centered in understanding the types of data that we want to manipulate and how to manipulate that data.

Common data types include:

Data Type	Represents	Examples
integer	whole numbers	-5, 0, 123
floating point (real)	fractional numbers	-87.5, 0.0, 3.14159
string	A sequence of characters	"Hello world!"
Boolean	logical true or false	true, false
nothing	no data	null

The common data types usually exist in most programming languages and act or behave similarly from language to language. Additional complex and/or composite data types may exist and vary from language to language.

TOKENS OF PROGRAMMING LANGUAGES

Tokens

Tokens are the smallest elements of a **program**, which are meaningful to the compiler. The following are the types of **tokens**: Keywords, Identifiers, Constant, Strings, Operators etc.,

There are five categories of **tokens**: 1) identifiers, 2) constants, 3) operators, 4) separators, **and** 5) reserved words. For **example**, the reserved words "new" **and** "function" are **tokens** of the JavaScript language. Operators, such as +, -, *, **and** /, are also **tokens** of nearly all programming languages

Identifiers

Identifiers are names given to various program elements such as variables, functions, and arrays. Identifiers consist of letters and digits, in any order, except that the first character must be a letter. Both uppercase and lowercase letters are permitted and the underscore may also be used, as it is also regarded as a letter. Uppercase and lowercase letters are not equivalent, thus not interchangeable. This is why it is said that C is case sensitive. An identifier can be arbitrarily long.The same identifier may denote different entities in the same program, for example, a variable and an array may be denoted by the same identifier.

Keywords

Reserved words that have a special meaning in a programming language.

Examples:

- int
- float
- if
- else
- while
- return

Constants (Literals)

Fixed values that do not change during program execution.

Examples:

- Integer → 10
- Float → 3.14
- Character → 'A'
- String → "Hello"

Operators

Symbols used to perform operations.

Examples:

- Arithmetic → +, -, *, /
- Relational → >, <, ==
- Logical → &&, ||

Special Symbols (Punctuators)

Symbols used to structure a program.

Examples:

- ; (semicolon)
- { } (curly braces)
- ( ) (parentheses)
- , (comma)

Variables in Programming Language

A variable is a named storage location used to store data in a program. The value of a variable can change during program execution.

Programming languages like Python, C, and Java use variables to store and manipulate data.

Rules for Naming Variables

1. Must start with a letter or underscore _
2. Cannot start with a number
3. Cannot use keywords (like int, if, while)
4. No spaces allowed
5. Case-sensitive (in most languages)

Example:

- Valid → total_marks, age, _count
- Invalid → 1age, total marks, int

Types of Variables (Based on Data Type)

Integer → Stores whole numbers (`10`, `25`)
Float → Stores decimal numbers (`3.14`)
Character → Stores single character (`'A'`)
String → Stores text (`"Hello"`)
Boolean → Stores True/False values

Operators in Programming Language

Operators are symbols used to perform operations on variables and values.
Programming languages like C, Python, and Java use operators to perform calculations and make decisions.

Types of Operators

Arithmetic Operators
Used for mathematical calculations.

Operator	Meaning	Example
+	Addition	5 + 3 = 8
-	Subtraction	5 - 3 = 2
*	Multiplication	5 * 3 = 15
/	Division	6 / 3 = 2
%	Modulus (remainder)	5 % 2 = 1

Example (Python):

```
a = 10
b = 3
print(a % b)
```

Relational (Comparison) Operators
Used to compare two values.

Operator	Meaning
==	Equal to
!=	Not equal to
>	Greater than
<	Less than
>=	Greater than or equal to
<=	Less than or equal to

Example:

```
x = 5
print(x > 3)
```

Logical Operators
Used to combine conditions.

Operator	Meaning
&& (and)	Both conditions must be true
`	
! (not)	Reverses condition

Assignment Operators
Used to assign values to variables.

Operator	Example
=	x = 5
+=	x += 3

Operator	Example
-=	x -= 2
*=	x *= 4
/=	x /= 2

Increment & Decrement Operators (Mostly in C, Java)

Operator	Meaning
++	Increase by 1
--	Decrease by 1

Example (C):

```
int x = 5;
x++;
```

Importance of Operators

- Perform calculations
- Compare values
- Make decisions
- Control program flow

Data types in Programming Language

Data types define the type of data a variable can store.
They tell the computer what kind of value is being used (number, text, true/false, etc.).
Programming languages like C, Python, and Java use data types to manage memory efficiently.

Types of Data Types

Primitive (Basic) Data Types

These are basic built-in data types.

Data Type	Description	Example
Integer (int)	Whole numbers	10, -5
Float (float)	Decimal numbers	3.14, 9.8
Character (char)	Single character	'A'
Boolean (bool)	True or False	True

Non-Primitive (Derived) Data Types

These are more complex data types derived from basic types.

- Array
- String
- Structure
- Union
- List (in Python)
- Object (in OOP languages)

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DEPARTMENT OF COMPUTER SCIENCE

BRIDGE COURSE TEST

on

"INTRODUCTION TO COMPUTING"

1. A small picture that represents a folder, program or other things ? [A]
   - A. Icon
   - B. Desktop
   - C. Graphic
   - D. Image
2. An example of non-numeric data is [D]
   - A. Bank balance
   - B. Examination marks
   - C. Real numbers
   - D. employee address
3. The process of connecting to the internet account is [A]
   - A. LOGIN
   - B. LOGOUT
   - C. SIGNIN
   - D. SIGNOUT
4. The physical parts of a computer [A]
   - A. Hardware
   - B. Hard Drive
   - C. Disk Drive
   - D. Flopy Drive
5. A worldwide network of computers ? [C]
   - A. CPU
   - B. RAM
   - C. Internet
   - D. Network
6. What is the brain of the computer. [A]
   - A. CPU
   - B. RAM
   - C. Motherboard
   - D. Hard Drive
7. What was the first computer virus called? [A]
   - A. Creeper
   - B. spyware
   - C. trojan horses,
   - D. bootkits

8. An integrated circuit is [B]

A. A complicated circuit
B. Fabricated on a tiny silicon chip
C. Much costlier than a single transistor
D. An integrating device

9. The components that process data are located in the [C]

A.In put device
B.Out put device
C. System unit
D.Storage Components

10. This type of computer is mostly used for automatic operations. [B]

A. remote
B. hybrid
C. analog
D. digital

11. Part of a computer that allows a user to put information into the computer ? [B]

A. Output Device
B. Input Device
C. Operating System
D. Software

12. which of the following printers cannot print graphics? [B]

A. Ink-jet
B. Daisy wheel
C. Laser
D. Dot matrix

13. The name of the computer's brain is …. [C]

A. Monitor
B. hardware
C. CPU
D. byte

14. Computer has …… memory? [C]

A. Main memory
B. primary memory
C. both main memory or primary memory
D. none of these

15. Which of the following is not a type of computer on the basis of operation? **[A]**

A. Remote
B. Hybrid
C. Analog
D. Digital

16. What is called data in computer? [C]

A. to the sign
B. the number
C. given information
D. sign and numerical information

17. The main system board of the computer is called ____. [A]

A. Motherboard

B. Processor
C. Microchip
D. None of these

18. The monitor of a computer is- [D]
A. storage device
B. processing device
C. input device
D. output device

18. Select the non-volatile memory; [B]
A. SRAM
B. ROM
C. DRAM
D. All of the above

20. Which of the following is an example of a web browser? [A]
A. Google
B. Apple
C. Mozilla Firefox
D. Microsoft

21. GUI abbreviation of; [D]
A.Graph Use Interface
B.Graphical Universal Interface
C.Graphical Unique Interface
D.Graphical User Interface

22. What is a programming language? [B]
A) A computer hardware device
B) A set of instructions to communicate with a computer
C) A type of operating system
D) A database

23 .Which of the following is used to store data in a program? [B]
A) Operator
B) Variable
C) Loop
D) Function

24. Translator which is used to convert codes of assembly language into machine language is termed as [A]
A.assembler
B.attempter
C.compiler
D.debugger

25. Which data type is used to store text? [D]
A) Integer
B) Float
C) Boolean
D) String

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"Introduction to Computing"

Evaluation Sheet Before the start of the Bridge Course

Date: 22-09-2025

S.NO.	NAME OF THE STUDENT	CLASS	MARKS (25 M)
1.	Shaik Sabiha	I B.Com.(CA)	18
2.	Shaik Kadharunnisa	I B.Com.(CA)	11
3.	Jartha Bhavani	I B.Com.(CA)	12
4.	Bobbarada Yamini	I B.Com.(CA)	09
5.	Randa Mouni Sri	I B.Com.(CA)	09
6.	Piradi D.V.Lakshi	I B.Com.(CA)	14
7.	Pemmadi Usha Sri	I B.Com.(CA)	12
8.	Donka Reshma	I B.Com.(CA)	07
9.	Kasarapu Kodanda Vani	I B.Com.(CA)	15
10.	Tokala L.Jaya Varshitha	I B.Com.(CA)	17
11.	Ryali Prasanth	I B.Com.(CA)	11
12.	Yalla Sri Durga Malleswari	I B.Com.(CA)	15
13.	Ventru Mahalakshmi	I B.Com.(CA)	16
14.	Viswanandula Veera Mani	I B.Com.(CA)	16
15.	Vanamadi Swapna Sri	I B.Com.(CA)	20
16.	Gollapalli Lavanya	I B.Com.(CA)	08
17.	Vittanala Sandhya	I B.Com.(CA)	08
18.	Madiki Rani	I B.Com.(CA)	13
19.	Bunga Sailaja	I B.Com.(CA)	18
20.	Ulagati Sneha	I B.Com.(CA)	11
21.	Kalavala Sameera	I B.Com.(CA)	15
22.	Thathapudi Yestheru Rani	I B.Com.(CA)	16
23.	Gosala Suhasini	I B.Com.(CA)	18
24.	Srimanthula Chinnathalli	I B.Com.(CA)	20
25.	Manupati Rani	I B.Com.(CA)	22
26.	Thota Hasini	I B.Com.(CA)	14
27.	Yamalapalli Swetha Harika	I B.Com.(CA)	16
28.	Nakka Saranya	I B.Com.(CA)	11
29.	Kandikatla Vasavi Sangeetha	I B.Com.(CA)	13
30.	Rasani Tejaswini	I B.Com.(CA)	09

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Evaluation Sheet at the End of the Bridge Course

Date:25-09-2025

S.NO.	NAME OF THE STUDENT	CLASS	MARKS (25 M)
1.	Shaik Sabiha	I B.Com.(CA)	24
2.	Shaik Kadharunnisa	I B.Com.(CA)	18
3.	Jartha Bhavani	I B.Com.(CA)	17
4.	Bobbarada Yamini	I B.Com.(CA)	16
5.	Randa Mouni Sri	I B.Com.(CA)	15
6.	Piradi D.V.Lakshi	I B.Com.(CA)	20
7.	Pemmadi Usha Sri	I B.Com.(CA)	19
8.	Donka Reshma	I B.Com.(CA)	16
9.	Kasarapu Kodanda Vani	I B.Com.(CA)	19
10.	Tokala L.Jaya Varshitha	I B.Com.(CA)	22
11.	Ryali Prasanth	I B.Com.(CA)	24
12.	Yalla Sri Durga Malleswari	I B.Com.(CA)	19
13.	Ventru Mahalakshmi	I B.Com.(CA)	21
14.	Viswanandula Veera Mani	I B.Com.(CA)	22
15.	Vanamadi Swapna Sri	I B.Com.(CA)	25
16.	Gollapalli Lavanya	I B.Com.(CA)	18
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18.	Madiki Rani	I B.Com.(CA)	22
19.	Bunga Sailaja	I B.Com.(CA)	24
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