Assignment
Fundamentals of IT and Programming

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Course/Subject: Programming Fundamentals of IT and Programming

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Introduction

Information Technology

What is IT?

Information Technology (IT) refers to the use of computers, software, networks, and other electronic systems for storing, retrieving, and transmitting data.

Components of IT:
- Hardware – Physical components like CPU, keyboard, monitor.
- Software – Programs that run on hardware.
- Network – Internet, LAN/WAN systems.
- Data – Information processed by systems.
- People – IT professionals, users.

Importance of IT:
- Helps in automation and efficiency
- Used in education, healthcare, business, etc.
- Plays a critical role in communication

Computer Basics

Definition of Computer:
A computer is an electronic machine that processes input to produce output.

Main Units of a Computer:
1. Input Unit – Keyboard, Mouse
2. Central Processing Unit (CPU) – Brain of the computer
3. Output Unit – Monitor, Printer
4. Storage Unit – HDD, SSD, Pen drive

Types of Computers:
- Desktop
- Laptop
- Servers
- Smartphones

Software and Operating Systems

Types of Software:

1. System Software – Operating System (Windows, Linux)

2. Application Software – MS Word, Excel, Browsers

3. Utility Software – Antivirus, Disk Cleanup

Operating System Functions:

- Manages hardware

- Manages files and directories

- Provides user interface

- Allocates resources to programs

Introduction to Programming

What is Programming?
Programming is the process of writing instructions that a computer can understand and execute.

Common Programming Languages:
- C
- C++
- Python
- Java
- JavaScript

Purpose of Programming:
- Create applications
- Automate tasks
- Solve problems efficiently

Programming Concepts

Basic Concepts:

- Variables – Store data

- Data Types – int, float, char

- Operators – +, -, *, /

- Control Statements – if, else, loops

- Functions – Block of reusable code

Example in C:

```c
#include<stdio.h>
int main() {
    int a = 10, b = 20;
    printf("Sum = %d", a + b);
    return 0;
}
```

IT in Daily Life

Applications of IT:

- Education – Online classes, digital libraries

- Business – E-commerce, cloud storage

- Healthcare – Telemedicine, data management

- Banking – Online banking, ATMs

Impact:

IT has made life faster, easier, and more connected.

Conclusion and Future Scope

Conclusion:

The fundamentals of IT and programming are essential for today's digital world. A good understanding opens doors to many career paths.

Future Scope:
- Artificial Intelligence
- Cybersecurity
- Cloud Computing
- Web and App Development

Thank You

I would like to express my sincere gratitude for the opportunity to learn and explore the fundamentals of IT and Programming through this assignment.

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