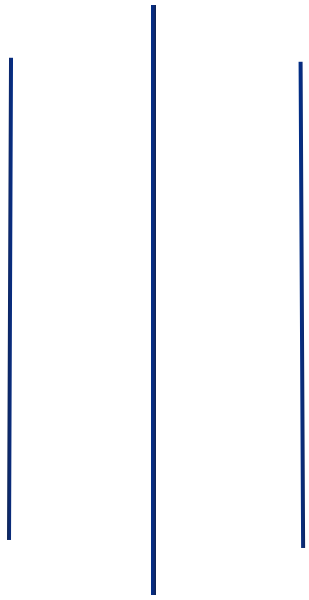
A project work on



Computer Science

Grade XII

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Acknowledgement

Every organized report requires a lot of hard work and seeks a lot of helping hands.Up to the completion of this project report, I was not so far from this strategy or rule. First of all, I would like to thank my subject teacher Mr. Rakesh Agrahari for his proper guidance and moderation during my classes. Plus, I owe a thank to my dear friends for their continuous support and help on the completion of my project work.

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1. Cloud Computing

Cloud Computing is the delivery of different services through the internet. These resources include tools and applications like data storage, servers, database, networking and software. Rather than keeping files on a hard drive or local storage device, cloud based storage makes it possible to save them to a remote database. As long as electronic device has access to the web , it has access to the data and the software programs to run it.

1.1 Advantages of Cloud Computing

i. Back-up and restore data
ii. Excellent accessibility
iii. Low maintenance cost
iv. Mobility

1.2 Disadvantages of Cloud Computing

i. Internet connectivity is required
ii. Problem of vendor lock-in
iii. Limited control for users
iv. Security

2. Software Project Management

Software project management is a science of planning and leading the software projects in a way of sub-disciplinary manner in which a software projects are planned, implemented, monitored and controlled.

2.1 Phases of Software Development Life Cycle

a) Feasibility Study

This phase begins with identifying a new system. In this phase, System Analyst studies organization capacity, planning, project scheduling, cost estimation etc. System Analyst Studies Technical feasibility, Economical feasibility, Operational feasibility, Social feasibility, management feasibility, Time feasibility, Legal feasibility.

b) System Analysis

After Feasibility study, data are collected from various sources by using different tools like interview, observation, questionnaire, sampling, research etc. and documentation is done. System analysis is done whether software design specification and requirements are meeting to the user wants or not.

c) System Design and Documentation

In this phase final system is designed. During this phase designer designs the aspect from input, processing, output and database of the system. It is a documentation which guides while developing system. Many system design tools are used while system design.

d) System Development

After designing a system the documentation turn into physical system. Software Engineer starts to develop a new system according to organization requirement. It is the process of defining, designing, developing, testing, and implementing a new software application or program. This is the phase where coding is done to development a system.

e) System Testing

After developing a new system, testing is done according to the schedule. In this phase specification, requirement, features are tested. The system is tested to check either the system is meeting organization goal or not.

f) System Implementation

This phase carry out developed system into working condition. The system is loaded for work and distributed to the user. Testing , debugging is done in this phase.

g) System Maintenance and Update

In this phase, after the implementation of the system the system is maintained, evaluated and updated according to the feedback of the users.

3. Network and Internet

Network is a series of interconnected nodes that can transmit, receive and exchange data, voice and video traffic. The computers on a network maybe linked through cables, telephones, lines, radio waves, satellite, or infrared light beams.

Internet is a network of networks. The worlds largest Computer Network that connects thousands of Network and millions of computer around the world. It is a global network by which all computers around the world can share information. It uses TCP/IP (Transmission Control Protocol/ Internet Protocol). In order to connect to the Internet, we must have access to an Internet Service Provider (ISP), which acts as the mediator between user and the Internet. The first computer network, was called ARPANET (Advance Research Project Agency Network) by ARPA in 1969 AD.

4. Program in C Using Functions

The Modular programming where we can break large programs into small subprograms or modules which makes program simpler and easier to understand. These Subprograms are called function. It makes program more efficient and reduces complexity so that programmer can easily create, modify and debug programs.Function is categorized into two different types i.e.; library function and user define function.

a. Library Function: The functions that is already defined by a programming language itself are called library function. They are predefined functions which has its own specific work. Examples Printf();, scanf();, getch(); etc.

b. User Define Function: The function that is defined by a user according to their own needs is called User Define Function. When a function is called, the control transfers to the called function, which will be executed, and then again transfers the control back to the calling function.

Accessing a Function

We can access function using four ways which are given below:

a) Function with no argument and no return value.
b) Function with no argument with return value
c) Function with argument and no return value
d) Function with argument and with return value

4.1 Output and Explanation

```
#include <stdio.h>
#include <conio.h>

void functionName() {
        .....
        block of statements;
        .....
}

int main() {
        .....
        functionName();
        .....

}
```

The execution of C programs begins from the *main()* function. When the compiler encounters/finds the called function *functionName();*, controls the program and jumps to,

```
void functionName()
```

And, the compiler starts executing the code inside *functionName();* .
The control of the program jumps back to the *main()* function once code inside the function definition is executed.

5. File Handling

It allows user to store data permanently and read data files from an auxiliary storage device (Secondary Storage device like Hard disk). While program processing the content are stored in RAM temporarily and data may erase after the computer is shutdown so, data file save the content in secondary device and retrieve whenever we want.

Modes of data file

r = Reading file

w = Writing files

a = Add data to existing file.

EOF(End of file) = Checks the end of file

fopen() = Used to open file for reading, writing or adding mode.

fprintf() = Used to write the content to the data file.

fscanf() = Used to read the content from the data file.

fclose() = close or stop reading and writing mode.

Example:

A program to add person name, address and telephone number in a exixting data file.

```
#include<stdio.h>
#include<conio.h>

void main() {
        char name[50];
        char address[50];
        int tel;
        int i,n;
        FILE *fp;
        fp=fopen("rec.txt", "a");
        printf("Enter how may many records you want to write");
        scanf("%d",&n);
        for (i=1;i<=n;i++) {
                printf("Enter your name");
                scanf("%s",name);
                printf("Enter your address");
                scanf("%s",address);
                printf("Enter telephone number");
                scanf("%d",&tel);
                fprintf(fp,"%s %s %d",name,address,tel);
        }
        fclose(fp);
        getch();
}
```

Explanation:

The above program relates to file handling. In the above program, a text file '*rec.txt'* is created where the output of the program is stored. Pointer is used to hold the text file and the mode of the text file. In the main function, variables of various data types are declared where the name, address and telephone number of the user is stored. First of all, the user will input the number of data that the user wants to collect. After the number of data to be stored is given by the user , for loop statement is executed where it will take the information from user as per the requirements of the user. Each time for loop stores the information given by the user in the variables declared in the main function and uses *fprintf()* function to store the information in the text file created using *fopen()* function.

After the collection of all the information/requirements given by the user, the program uses *fclose()* function to close the text file and the modes given in the program.