A MICRO PROJECT REPORT
ON

SANJIVANI K. B. P. POLYTECHNIC,KOPARGAON

Sanjivani Rural Education Society's

A MICRO PROJECT REPORT ON
"EMPLOYEE MANGEMENT SYSTEM USING C++"

SUBJECT:Object Oriented Programming Using C++ [22316]

SUBMITTED BY:

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Guided by: Prof.V.S Dhande

DEPARTMENT OF COMPUTER TECHNOLOGY,

SANJIVANI K.B.P POLYTECHNIC, KOPARGAON.

(2022-23)

DEPARTMENT OF COMPUTER TECHNOLOGY

Sanjivani Rural Education Society's

SANJIVANI K. B. P. POLYTECHNIC,KOPARGAON

CERTIFICATE

This is to certify that the Micro Project report entitled

"EMPLOYEE MANGEMENT SYSTEM USING C++"

SUBMITTED BY-

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Under our supervision and guidance for partial fulfillment of the requirement for diploma in Computer Technology affiliated to Maharashtra State Board of Technical Education, Mumbai.

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Prof.V.S.Dhande	Prof.G.N.Jorvekar	Prof.A.R.Mirika

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Jadhav Mahesh

Shinde Sumit

Parjane Sidhant

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Diploma in Computer Technology.

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RATIONALE

Although Employee Management System applications have been widely prototyped, the Rare few results regarding their impact on people: how are they used, do they change peoples daily life and what features influence usefulness most.

The project is about Employee Management System. As we know that in today's life it is very difficult to manage data about Employees or any other. This Project which is based on Employee Management System where multiple person can use this application for better handling on storage data.

In this world of growing technologies everything has been computerized.With large number of work opportunities the Human workforce has increased.Thus there is a need of a system which can handle the data of such large number of Employees in an Organization.This Project Simplifies the task of maintain records because of its user friendly nature.

Introduction : What is 'Employee Management System' in the Micro Project?

Aim: To Apply Various Concepts of Object Oriented Programming Using C++ in our Micro Project Employee Mangement System

Employee Management System is based on a concept to store and generate all the records of the employees. This program is considered as a simple database of employees in an office, an organization where the user can store employees record easily as it is not time-consuming. Here at first, the user has to pass through login system to get access then he/she can add employee's data, view list of employees, modify and remove employee details. The whole project is designed in 'C++' language and different variables and strings have been used for the development of this project. This project is easy to operate and understood by the users.

Employee management system using C++ is menu driven program which allows us to add, update, delete and search record of an employee working in an organization. The program employee management system store employee ID, name, post, department and salary of employee. Initially, it has no data. Thus, we have to add employee records choosing appropriate option in this program (i.e. selecting option #1).

Employee Management system using C++ program uses EmpID as unique identifier (i.e. primary key) to recognize employee. So, we can't add two employees having same ID. After successful entry of records of some employee, we can search record on the basic of ID or department. We can search particular employee from ID choosing option #2 and if we want to see all employee working in a department, we have to choose another option (i.e. option#3 in menu). We can list all employee records also using option #4 in menu. Again, we can update and delete existing record. Thus, this project is useful to mange employee records in an organization.

BENEFITS OF EMPLOYEE MANGEMENT SYSTEM

1. Maintain a database for all your former and current employees

Complete, searchable, and secure records that includes information such as the employee's personal details, bank details, emergency contacts, and even a record of his/her sick leaves.

2. Reduce the paperwork

An efficient employee management software will allow employees to request time off, submit timesheets or documents and allows employees to audit or approve submissions or requests.This negates the need to work with HR or submit unnecessary pieces of paper.

3. Keeps track of time and attendance

Employees and managers have an instant record of absenteeism and the number of hours put into work everyday. This allows employees to be more responsible and stay on top of their punctuality and absenteeism rates before it becomes in issue.

4. Asset Management

When an employee leaves the company, managers can keep track and monitor the return of any equipment that was provided to the employee by the organization.

5. Track progress of the company

Information is constantly being constantly being collected on the employee management software, making it easy to gauge the company's progress.Instead of having to spend time putting together reports to see how the company is doing, a quick look at the information on the software should allow managers to constantly and accurately track the company's progress.

COURSE OUTCOMES ACHIEVED

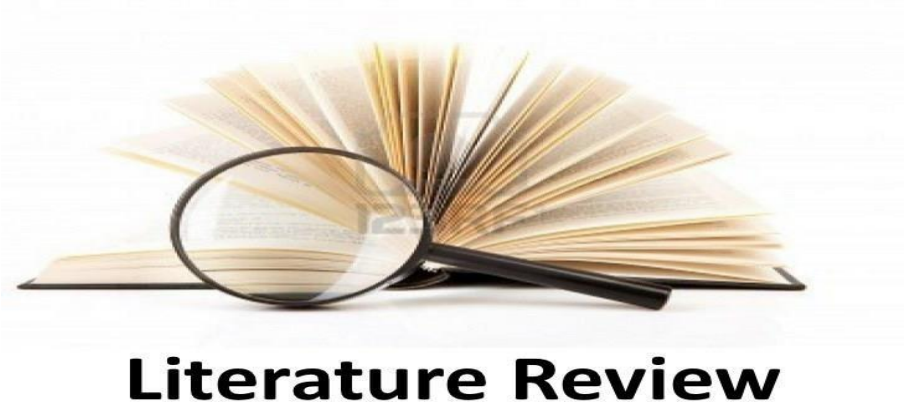
a. Develop C++ programs to solve problems using Procedure Oriented Approach.

b. Develop C++ programs using Classes and Objects.

c. Implement Inheritance in C++ program.

e. Develop C++ programs to perform file operations.

LITERATURE REVIEW



Literature plays an important role in point of understanding the concepts in detail.For doing any micro project it is necessary that one must have the knowledge of the concepts,and also utilizing those concepts in our daily life.Nowdays due to advance technologies many of the people have stopped referring the books.So we have tried to utilize our times reading reference books of Object Oriented Programming Using C++ and trying to implement those concepts in our Micro Project.We have taken micro project on "EMPLOYEE MANGEMENT SYSTEM USING C++".We have also referred the ppts which our subject teacher have shared with us.

We have referred the following reference books

- **Object Oriented Programming with C++ by E. Balagurusamy**
- **Object Oriented Programming with C++ by Robert Lafore**
- **The Complete Reference C++ by Herbert Schildt**

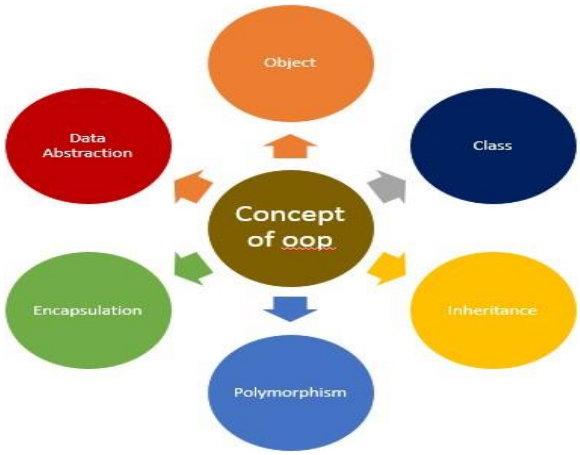
ACTUAL METHODOLOGY FOLLOWED

Implementation Details:

The Micro Project Code is implemented using Object Oriented Programming Using C++ Language.

Following are the details of Concepts used in the program and the software used to run this program.

The OOP Concepts:



1.Classes And Objects

2.Inheritance and inherited classes.

3.Constructor.

4.Menu ribbon concept using switch case.

5.File Handling using fstream.

The Software used : Turbo C++

MICRO PROJECT SOURCE CODE ON EMPLOYEE MANGEMENT SYSTEM

```
#include<iostream.h>
#include<conio.h>
#include<fstream.h>
#include<stdlib.h>
#include<iomanip.h>
#include<string.h>
#include<stdio.h>
const char* fileName="Employee.txt";

class Employee
{
private:
int EmpID;
char EmpName[50],Post[50],Department[10];
float Salary;
public:
void ReadData();
int GetID();
void DisplayRecord();
char* GetDepartment();
};

void Employee::ReadData()
{
cout<<endl<<"Employee ID:";
cin>>EmpID;
cout<<"Employee Name:";
cin>>EmpName;
cout<<"Employee's Post:";
cin>>Post;
cout<<"Employee's Department:";
cin>>Department;
cout<<"Salary:";
cin>>Salary;
}
```

```
void Employee::DisplayRecord()
{
cout<<endl<<"_____
_____";
cout<<endl<<setw(5)<<EmpID<<setw(15)<<EmpName<<setw(15)<<Post<<setw
(15)<<Department<<setw(8)<<Salary;
}
int Employee::GetID()
{
return EmpID;
}
char* Employee::GetDepartment()
{
return Department;
}
void main()
{
Employee emp,e;
char option,ch,Dept[50];
int ID,isFound;
clrscr();
fstream file;
file.open(fileName,ios::ate|ios::in|ios::out|ios::binary);
do
{
cout<<"*******Menu********";
cout<<endl<<"Enter your option";
cout<<endl<<"1 => Add a new record";
cout<<endl<<"2 => Search record from employee id";
cout<<endl<<"3 => List Employee of particular department";
cout<<endl<<"4 => Display all employee";
cout<<endl<<"5 => Update record of an employee";
cout<<endl<<"6 => Delete record of particular employee";
cout<<endl<<"7 => Exit from the program"<<endl;
cout<<"**********************"<<endl;
cin>>option;
switch(option)
{
```

```
case '1':
emp.ReadData();
file.seekg(0,ios::beg);
isFound=0;
file.read((char*)&e,sizeof(e));
while(!file.eof())
{
if(e.GetID()==emp.GetID())
{
cout<<"This ID already exist...Try for another ID";
isFound=1;
break;
}
file.read((char*)&e,sizeof(e));
}
if(isFound==1)
break;
file.clear();
file.seekp(0,ios::end);
file.write((char*)&emp, sizeof(emp));
cout<<endl<<"New record has been added successfully...";
break;

case '2':
isFound=0;
cout<<endl<<"Enter ID of an employee to be searched:";
cin>>ID;
file.seekg(0,ios::beg);
file.read((char*)&e,sizeof(e));
while(!file.eof())
{
if(e.GetID()==ID)
{
cout<<endl<<"The record found ... "<<endl;
cout<<endl<<setw(5)<<"ID"<<setw(15)<<"Name"<<setw(15)<<"Post"<<setw(15
)<<"Department"<<setw(8)<<"Salary";
e.DisplayRecord();
isFound=1;
```

```
break;
}
file.read((char*)&e,sizeof(e));
}
file.clear();
if(isFound==0)
cout<<endl<<"Data not found for employee ID#"<<ID;
break;
case '3':
isFound=0;
cout<<"Enter department name to list employee within it:";
cin>>Dept;
file.seekg(0,ios::beg);
file.read((char*)&e,sizeof(e));
while(!file.eof())
{
if(strcmp(e.GetDepartment(),Dept)==0)
{
cout<<endl<<"The record found for this department"<<endl;

cout<<endl<<setw(5)<<"ID"<<setw(15)<<"Name"<<setw(15)<<"Post"<<setw(15
)<<"Department"<<setw(8)<<"Salary";
e.DisplayRecord();
isFound=1;
break;
}
file.read((char*)&e,sizeof(e));
}
file.clear();
if(isFound==0)
cout<<endl<<"Data not found for department"<<Dept;
break;

case '4':
cout<<endl<<"Record for employee";
file.clear();
file.seekg(0,ios::beg);
int counter=0;
```

```
file.read((char*)&e,sizeof(e));
while(!file.eof())
{
counter++;
if(counter==1)
{
cout<<endl<<setw(5)<<"ID"<<setw(15)<<"Name"<<setw(15)<<"Post"<<setw(15
)<<"Department"<<setw(8)<<"Salary";
}
e.DisplayRecord();
file.read((char*)&e,sizeof(e));
}
cout<<endl<<counter<<"records  found..... ";
file.clear();
break;

case '5':
int recordNo=0;
cout<<endl<<"File is being modified....";
cout<<endl<<"Enter employee ID to be updated:";
cin>>ID;
isFound=0;
file.seekg(0,ios::beg);
file.read((char*)&e,sizeof(e));
while(!file.eof())
{
recordNo++;
if(e.GetID()==ID)
{
cout<<"The old record of employee having ID"<<ID<< "is:";
e.DisplayRecord();
isFound=1;
break;
}
file.read((char*)&e,sizeof(e));
}

if(isFound==0)
```

```
{
cout<<endl<<"Data not found for employee ID#"<<ID;
break;
}
file.clear();
int location=(recordNo-1)*sizeof(e);
file.seekp(location,ios::beg);
cout<<endl<<"Enter new record for employee having ID"<<ID;
e.ReadData();
file.write((char*)&e, sizeof(e));
break;

case '6':
recordNo=0;
cout<<endl<<"Enter employment ID to be deleted:";
cin>>ID;
isFound=0;
file.seekg(0,ios::beg);
file.read((char*)&e,sizeof(e));
while(!file.eof())
{
recordNo++;
if(e.GetID()==ID)
{
cout<<" The old record of employee having ID "<<ID<< " is: ";
e.DisplayRecord();
isFound=1;
break;
}
file.read((char*)&e,sizeof(e));
}
char tempFile[]="temp.txt";
fstream temp(tempFile,ios::out|ios::binary);
if(isFound==0)
{
cout<<endl<<"Data not found for employee ID#"<<ID;
break;
}
```

```
else
{
file.clear();
file.seekg(0,ios::beg);
file.read((char*)&e,sizeof(e));
while(!file.eof())
{
if(e.GetID()!=ID)
temp.write((char*)&e,sizeof(e));
file.read((char*)&e,sizeof(e));
}
file.close();
temp.close();
temp.open(tempFile,ios::in|ios::binary);
file.open(fileName,ios::out|ios::binary);
temp.read((char*)&e,sizeof(e));
while(!temp.eof())
{
file.write((char*)&e,sizeof(e));
temp.read((char*)&e,sizeof(e));
}
}
temp.close();
file.close();
remove(tempFile);
file.open(fileName,ios::ate|ios::in|ios::out|ios::binary);
break;
case '7':
exit(0);
break;
default:
cout<<"Invalid Options";
}
cout<<"\nDo you want to continue.....?y/n";
cin>>ch;
}while(ch!='n');
}
```

ACTUAL RESOURCES USED

Sr.No	Name of resources/material	Specifications	Quantity	Remarks
1.	Hardware : Computer system	Computer(i3-i5 preferable) RAM minimum 2GB and onwards	01	
2.	Operating system	Windows 10	01	
3.	Software Used	Turbo C++ version 3.0 or later	01	

OUTPUT ON EMPLOYEE MANGEMENT SYSTEM

Figure 1: Main Menu of Employee Management System Using C++

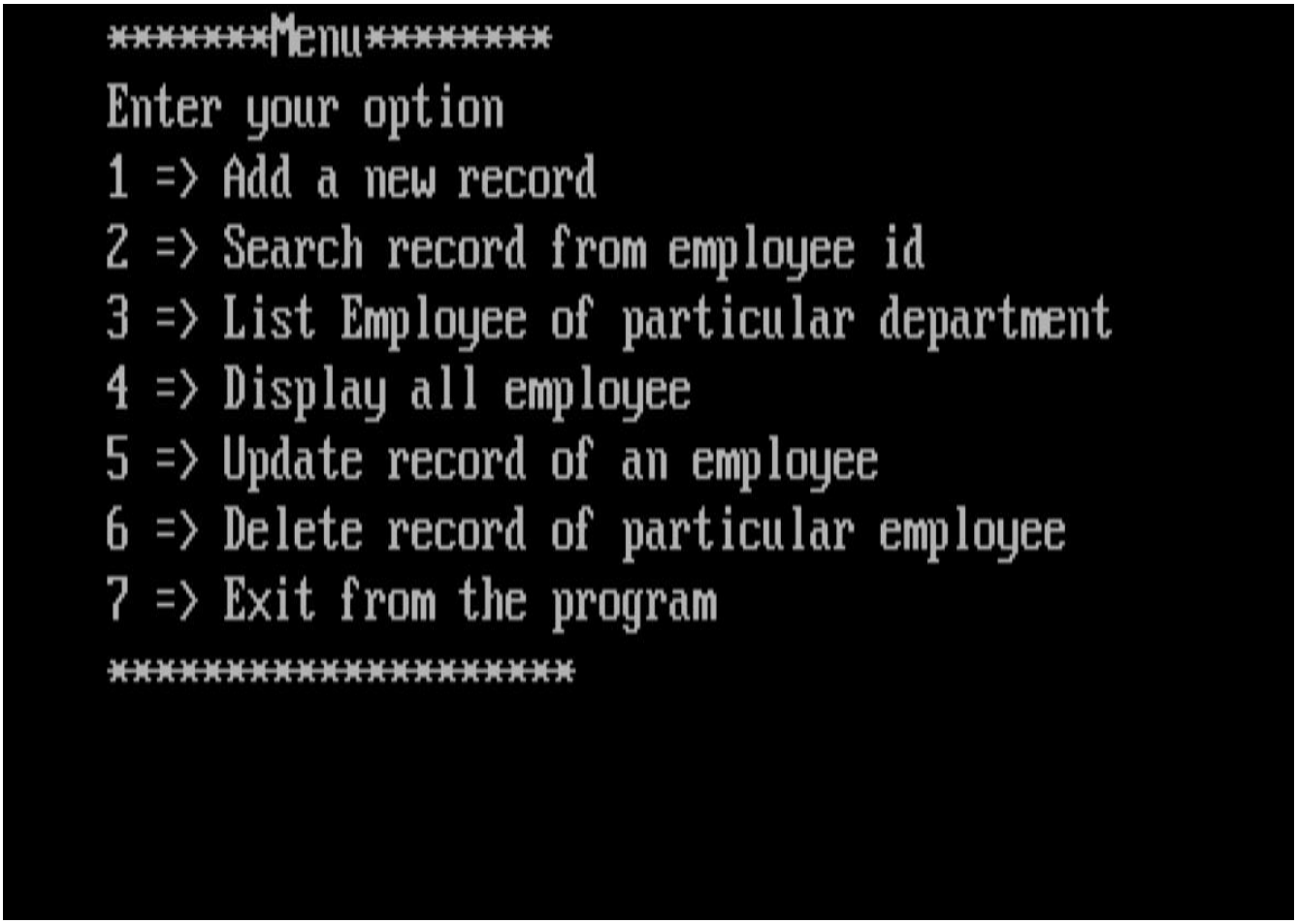


Figure 2: Adding New Employee Record

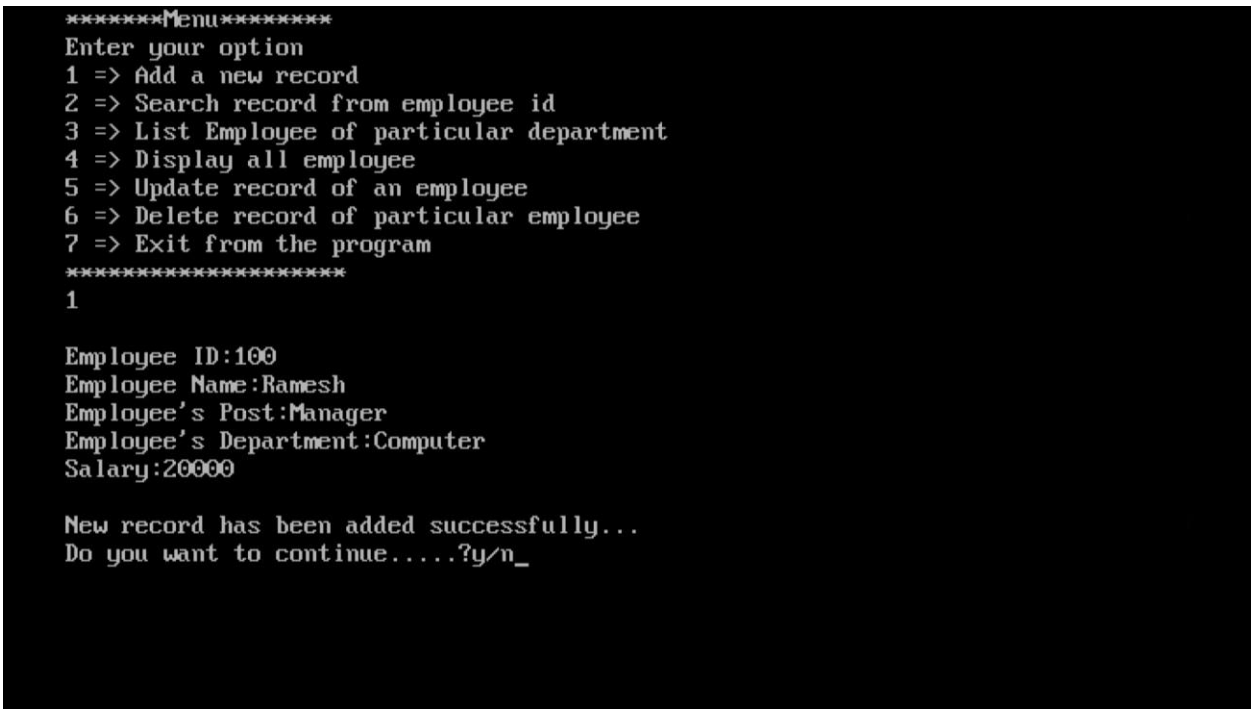


Figure 3: Searching Employee record using Employee ID

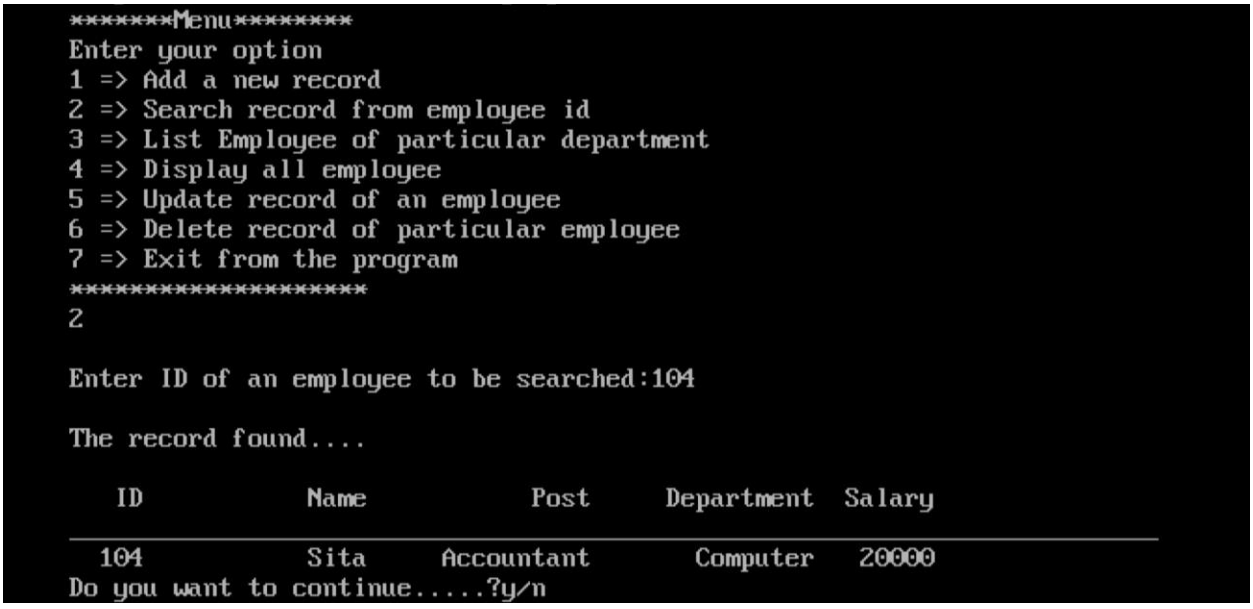


Figure 4:List Employee of particular department

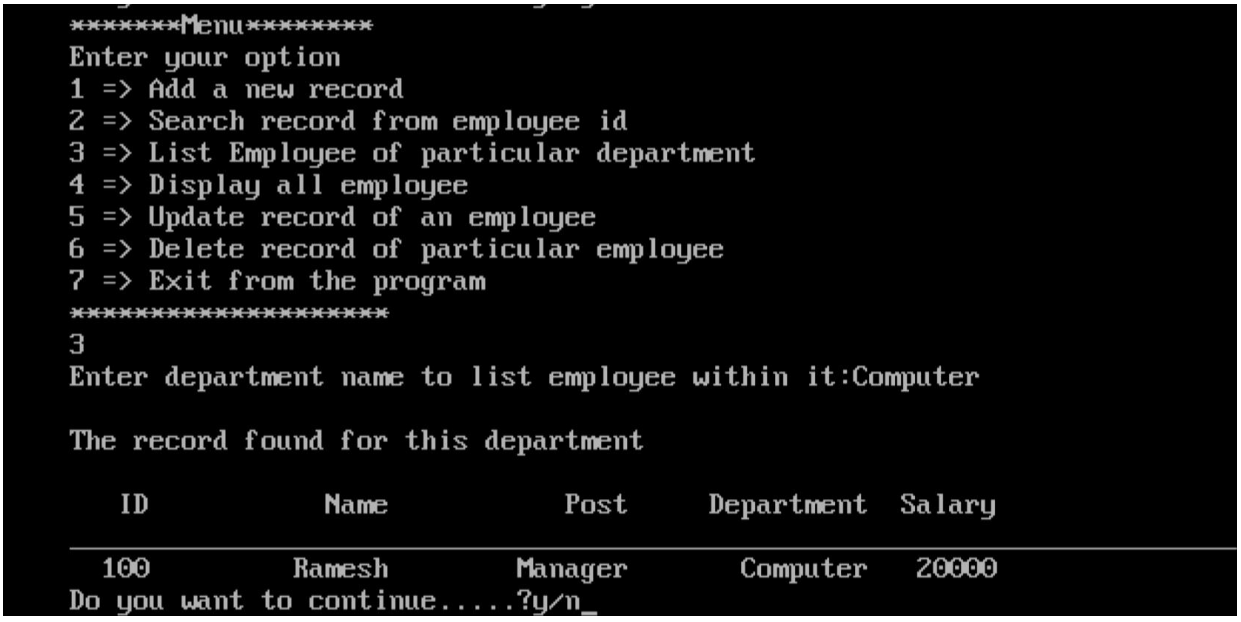


Figure 5:Display all employee record

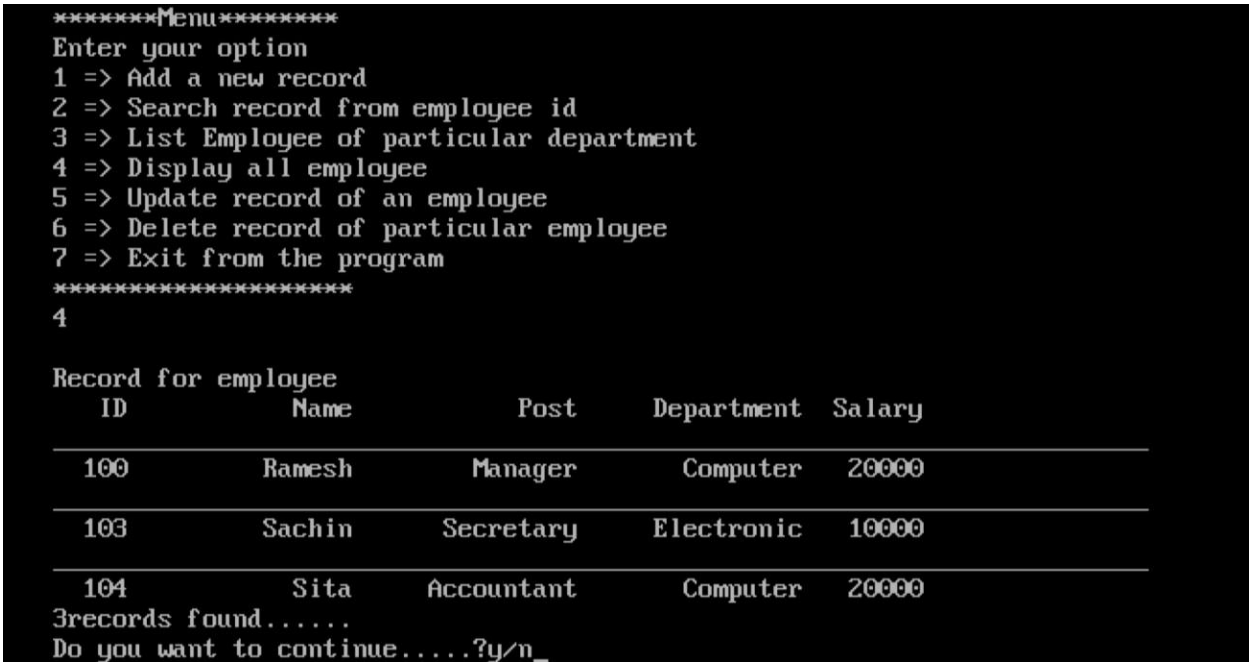


Figure 6:Update record of employee

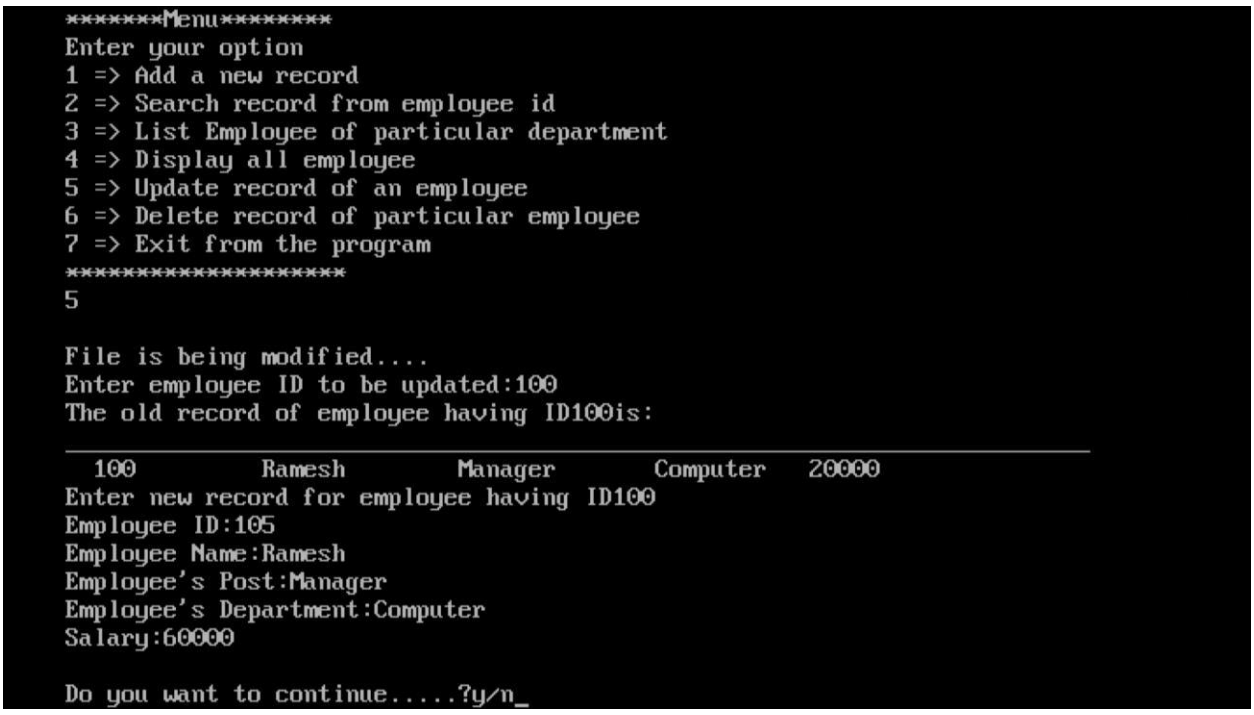
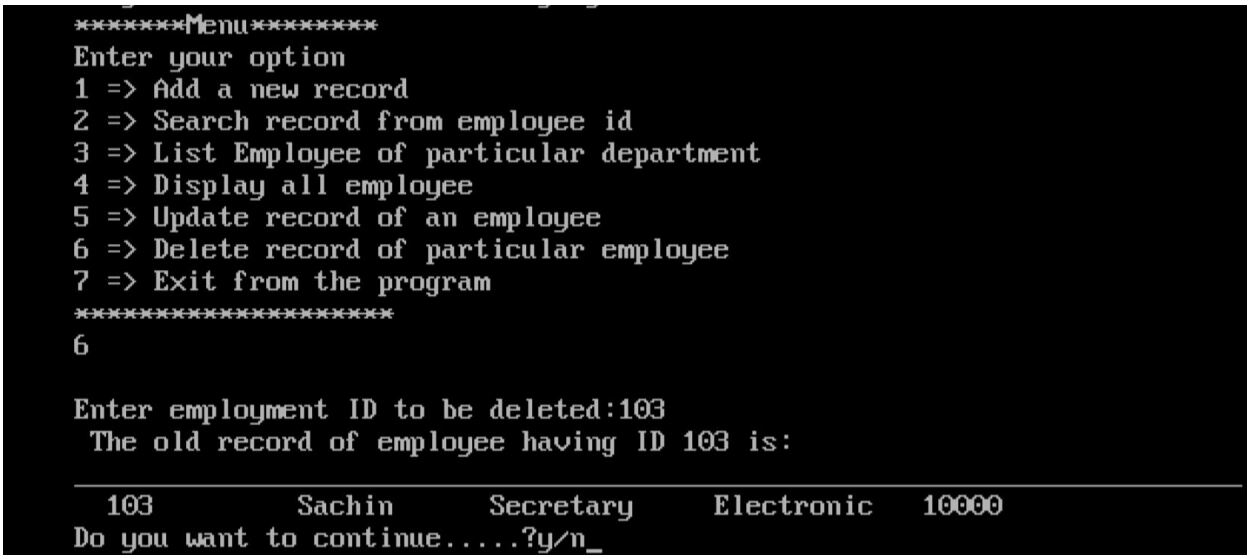


Figure 7:Deleting Existing Employee record



FUTURE ENHANCEMENT

This project is helpful in maintaining the employee's record,calculating the salary for each employee and it also focuses on each employee's attendance and the no of leaves taken per month/year.There is also a possibility of checking salary report at any time so that it doesn't lead to any miscalculation.As a future work,some additional stuff could be implemented and integrated into the application code making it much more reliableand flexible;especially what concerns apay-roll module,for instance.Every organization ,in nowadays has the necessity of managing its staff on a really good level as the staff has definitely the greatest merit of building up a company as such as it is

The well manged employee means giving the appropriate financial award-ness and all kind of benefits as such as they have been deserved.That's why the development of such systems is not is a programming business-a lot of people are ordinarily involved in such projects and one of the basic requirements is the reliability of the system,especially that concerns the storage of data and all of the operations that will be performed upon it.

APPLICATIONS ON EMPLYOEE MANAGEMENT SYSTEM

Mostly used in various Multinational companies to keep the record of various employees in a useful manner

CONCLUSION /What we have learned through this Micro Project

It was a great experience to design and implement the Employee management System by using Object Oriented Programming language C++ and to work on its documentation.While working on this project,we have learned many things especially how to apply the concepts of OOP paradigm in modelling of real world systems.

This assignment helped me to get the better understanding to develop and derive new class structures and organise them such that they will model real world systems within computers.It also helped me in getting in the better understanding of basic programming concepts of C++ language such as loops,control structure,arrays,file handling.

In this project,we have used almost every concepts of C++ language,we have learned .We have also provided validations throughout the system for avoiding logical errors,used excellent logic related comments with proper indentation and the OOP's concept in an excellent manner.

For any project to become successful there must be Teamwork, Determination ,Co- ordination,Discipline,Hardwork,Time Management,Dedication and Interest.We have followed all the aspects to make our project successful.We have worked in team spirit.Due this project we have learned how to work in team with proper Co-ordination.

After doing this project,We are in position to explain Object Oriented Programming concepts and apply them to the modelling of real world systems by utilizing its offered facilities.This will definitely help us in our society to apply the concepts of programming in our real life to make work in easier manner.