EMPLOYEE PAYROLL MANAGEMENT SYSTEM

Master of Computer Applications

From

National Institute of Technology,

Tiruchchirapalli, Tamil Nadu

Submitted to:

Prof. Dr. P. Chitra

Submitted By:

Pranshu Mishra (Roll No: 205119067)

Basharat Nawaz (Roll No: 205119025)

MCA 2nd Semester

CERTIFICATE

This is to certify that **Mr. Pranshu Mishra** and **Mr. Basharat Nawaz** of Master Of Computer Applications, National Institute of Technology, Tiruchchirappalli, Tamil Nadu has carried out the project work on **Employee Payroll Management System**. The students have tried to understand the involved concepts.

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PREFACE

A payroll system is software designed to organize all the tasks of employee payment and the filing of employee taxes. These tasks can include keeping track of hours, calculating wages, withholding taxes and deductions, printing and delivering checks and paying employment taxes to the government. Payroll software often requires very little input from the employer. The employer is required to input employee wage information and hours, then the software calculates the information and performs withholdings automatically.

ACKNOWLEDGEMENT

Through this acknowledgement, I express my sincere gratitude to all those people who have been associated with this project and have helped me with it and made it a worthwhile experience.

Firstly, I extend my thank to the various people who have shared their opinions and experiences through which I received the required information crucial for my report.

Finally, I express my thanks to **Prof. Dr. P. Chitra** for giving such an opportunity to make an application on Library Management System.

I thanks to my teacher who gave me valuable suggestions and all possible support and guidance regarding the project. I also thanks to TEACHERS and FACULTY MEMBERS who gave me such an opportunity to learn the subject in a practical approach and provide me with all the necessary resources.

Lastly, I will thank my parents for their moral and economic support. Also I want to thank to my friends for being so helpful.

INTRODUCTION

PROBLEM STATEMENT:

Payroll Application has been designed for the purpose of maintaining details of salary such as various allowances and deductions that needs to be given to the employees of the organization. Along with that, it also contains the options of adding new employee to the record, or removing the employee from the record.

It has option to edit the details of the employees. It is also protected by a password, and contains all the information about employee and the payroll in a very organized manner.

OBJECTIVE:

The primary need of the payroll software is to process salary for your employees. It counts the number of days the employee has worked, calculate the various parts of the salary like hra, ta, da from the provided base salary.

It also maintains the record in a very organized manner. The software is very feasible and can run on almost any computer.

SCOPE:

A payroll system that is computer driven offers to manage and automate the functions of payrolls systems in a particular organization. Before emergency of the computer systems, most organizations calculated the payroll manually. The use of the computer in payroll calculation has de it easier for the management to make and retain the information relating to payroll. Among the main characteristics of payroll systems, include the heightened security with regard to storage of sensitive company information and automatic calculations in employee payments

FEATURES

- Gross pay calculation (basic salary, wage supplements, occasional payments, cost reimbursements, etc.).
- Calculation of payroll related taxes and contributions.
- Preparation of payroll slips and other outputs broken down by employees or by cost centers for managerial and operational use.
- Recording of wage and labor-related data.
- Providing data and information for posting into the General Ledger.
- Data reports and certificates related to payroll processing.
- Movement of all payments, calculated during the pay processing cycle (net salary, tax, social security, etc.)
- Labor management.

SOFTWARE AND HARDWARE REQUIREMENTS

CLIENT SOFTWARE CONFIGURATION:

- Operating System: Windows
- IDE : DEV-C++

CLIENT HARDWARE CONFIGURATION:

- RAM : 1 GB
- Processor : Dual Core
- Hard Disk – 40 GB

TOOLS USED IN DEVELOPMENT:

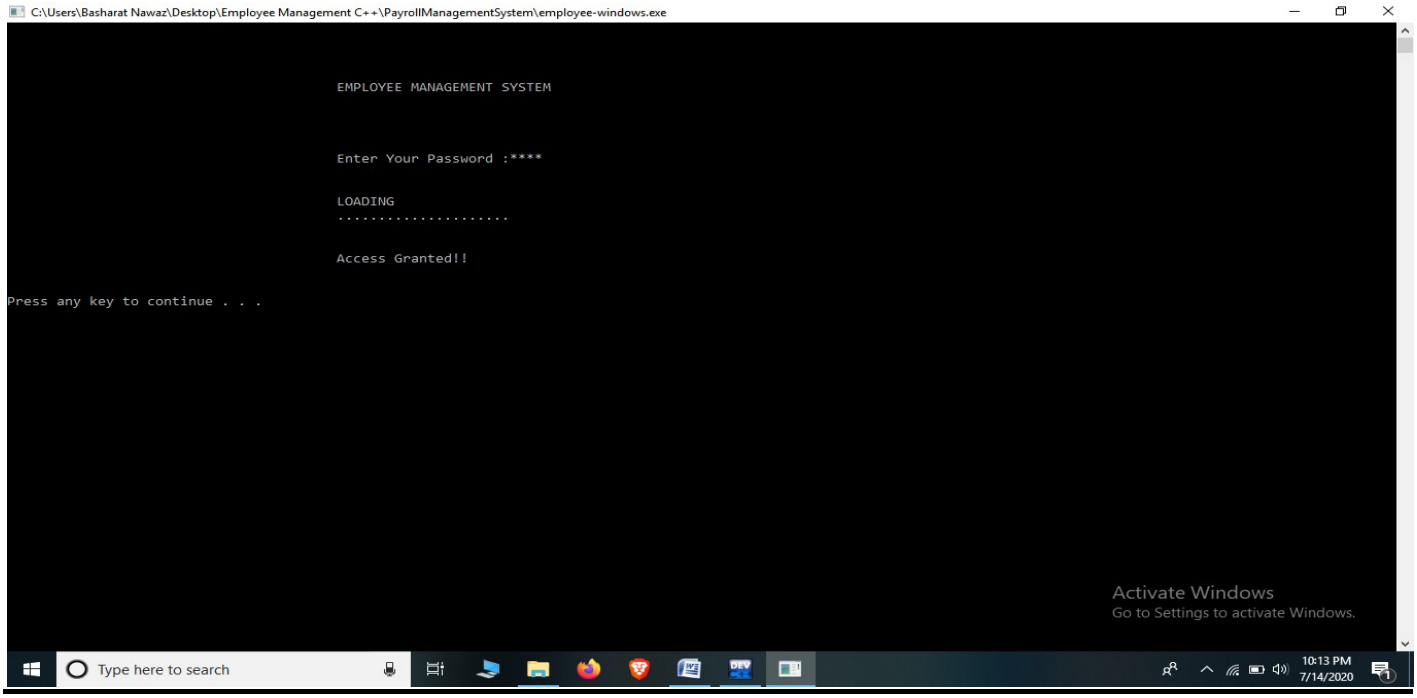
EDITOR:

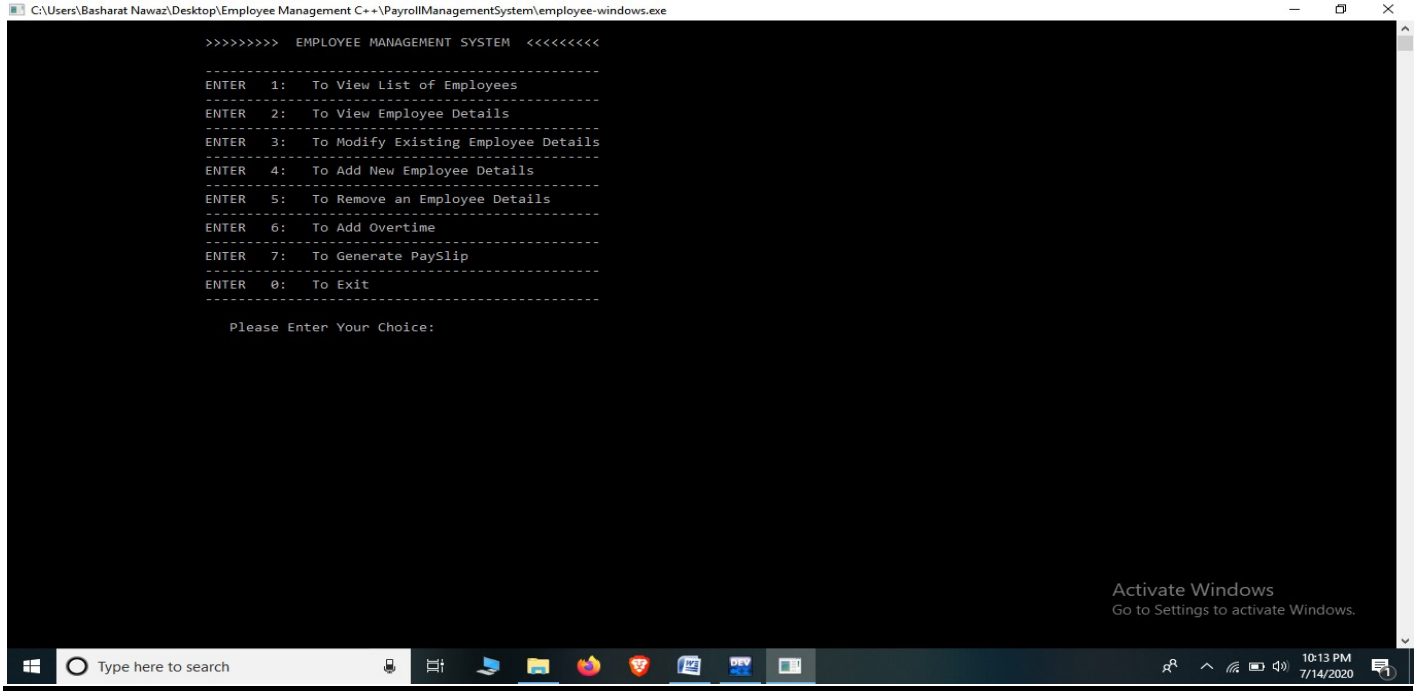
- Dev-C++

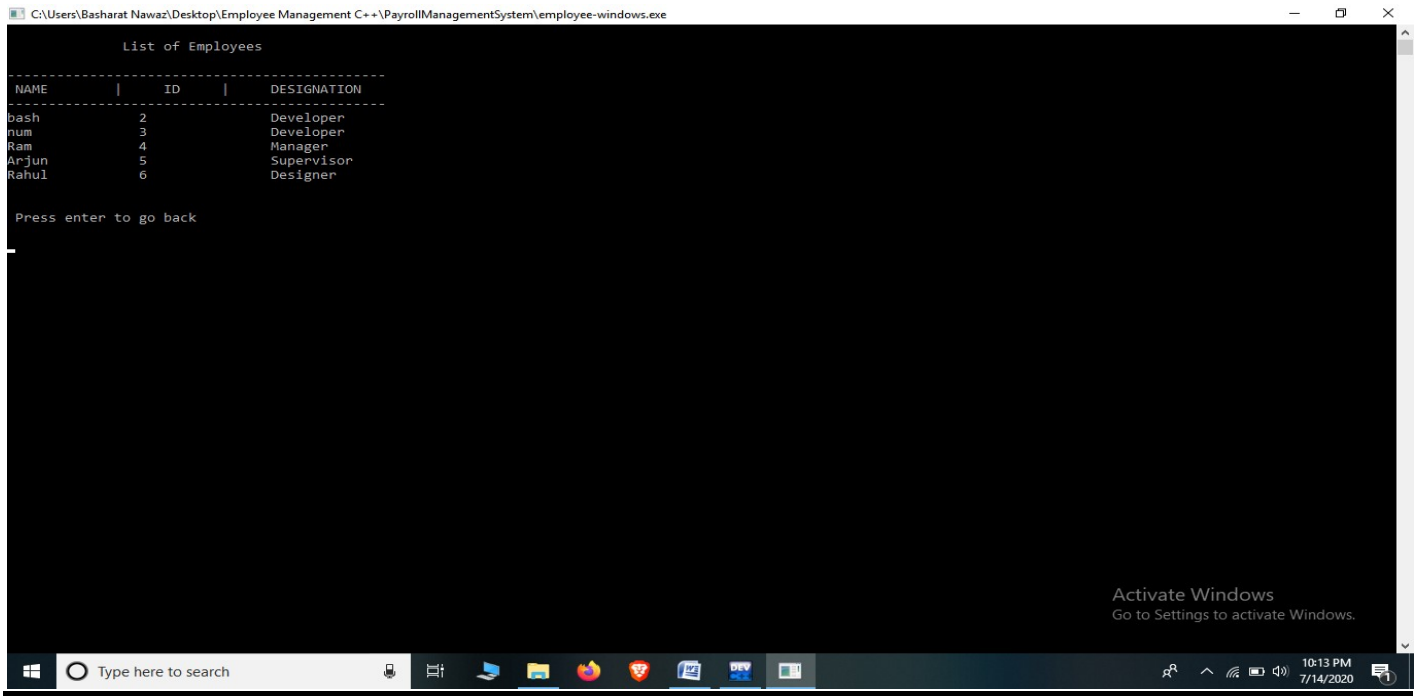
LANGUAGE:

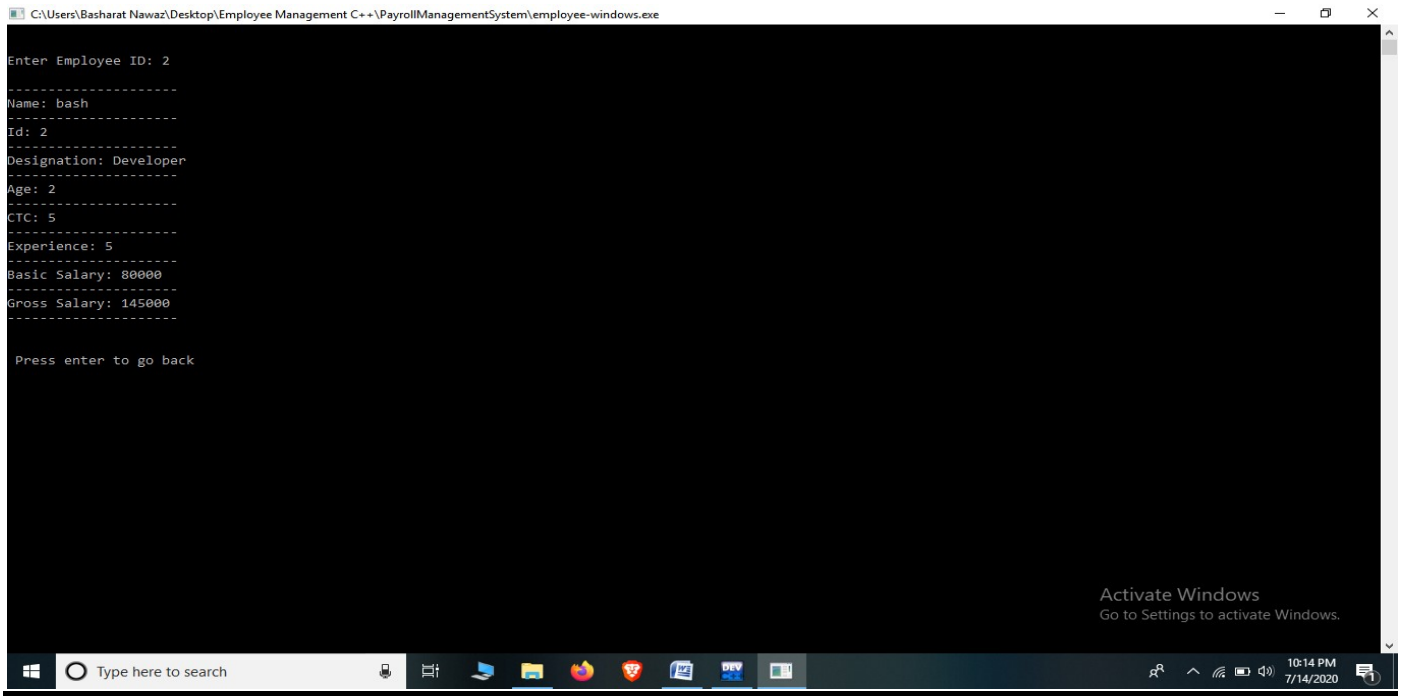
- C++

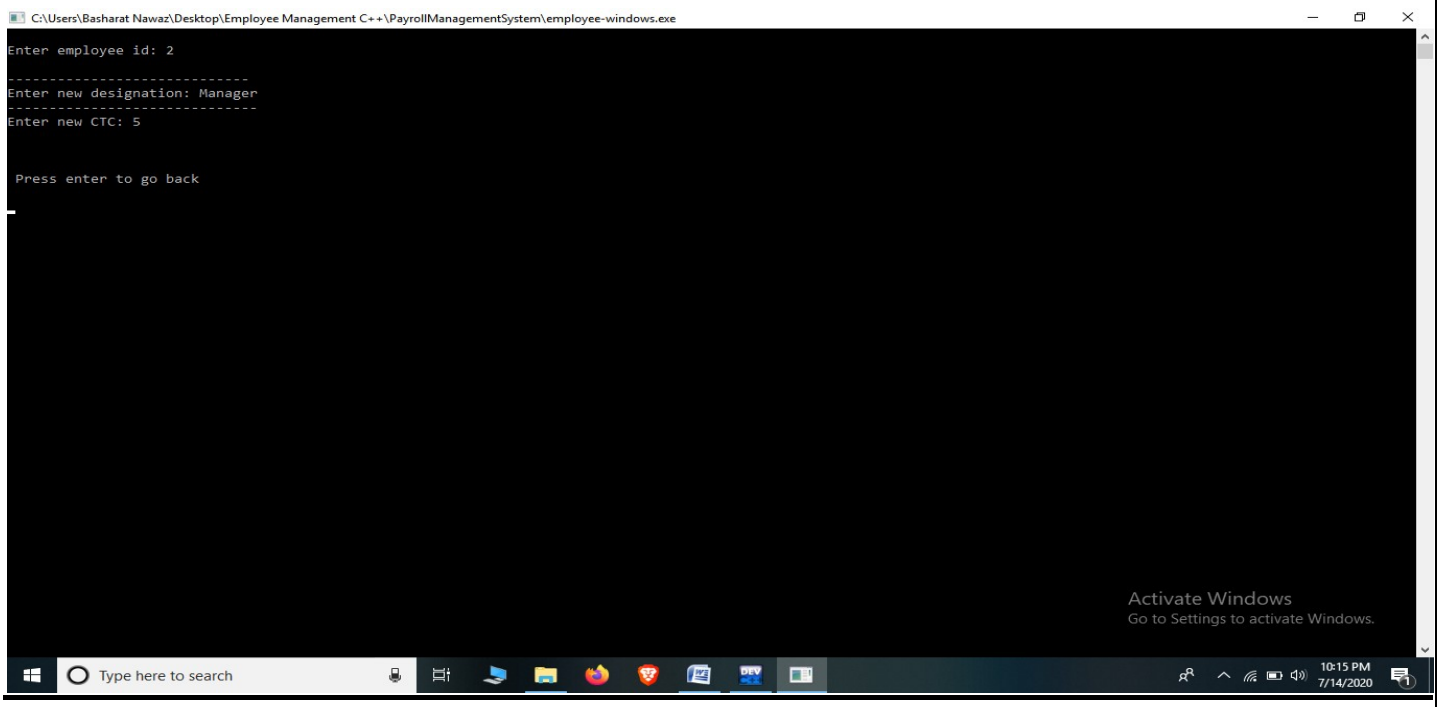
SCREENSHOT


C:\Users\Basharat Nawaz\Desktop\Employee Management C++\PayrollManagementSystem\employee-windows.exe
EMPLOYEE MANAGEMENT SYSTEM
Enter Your Password :****
LOADING
.....
Access Granted!!
Press any key to continue . . .
Activate Windows
Go to Settings to activate Windows.
Type here to search
10:13 PM
7/14/2020


C:\Users\Basharat Nawaz\Desktop\Employee Management C++\PayrollManagementSystem\employee-windows.exe
>>>>>>>>> EMPLOYEE MANAGEMENT SYSTEM <<<<<<<<<
ENTER 1: To View List of Employees
ENTER 2: To View Employee Details
ENTER 3: To Modify Existing Employee Details
ENTER 4: To Add New Employee Details
ENTER 5: To Remove an Employee Details
ENTER 6: To Add Overtime
ENTER 7: To Generate PaySlip
ENTER 0: To Exit
Please Enter Your Choice:
Activate Windows
Go to Settings to activate Windows.
Type here to search
10:13 PM
7/14/2020

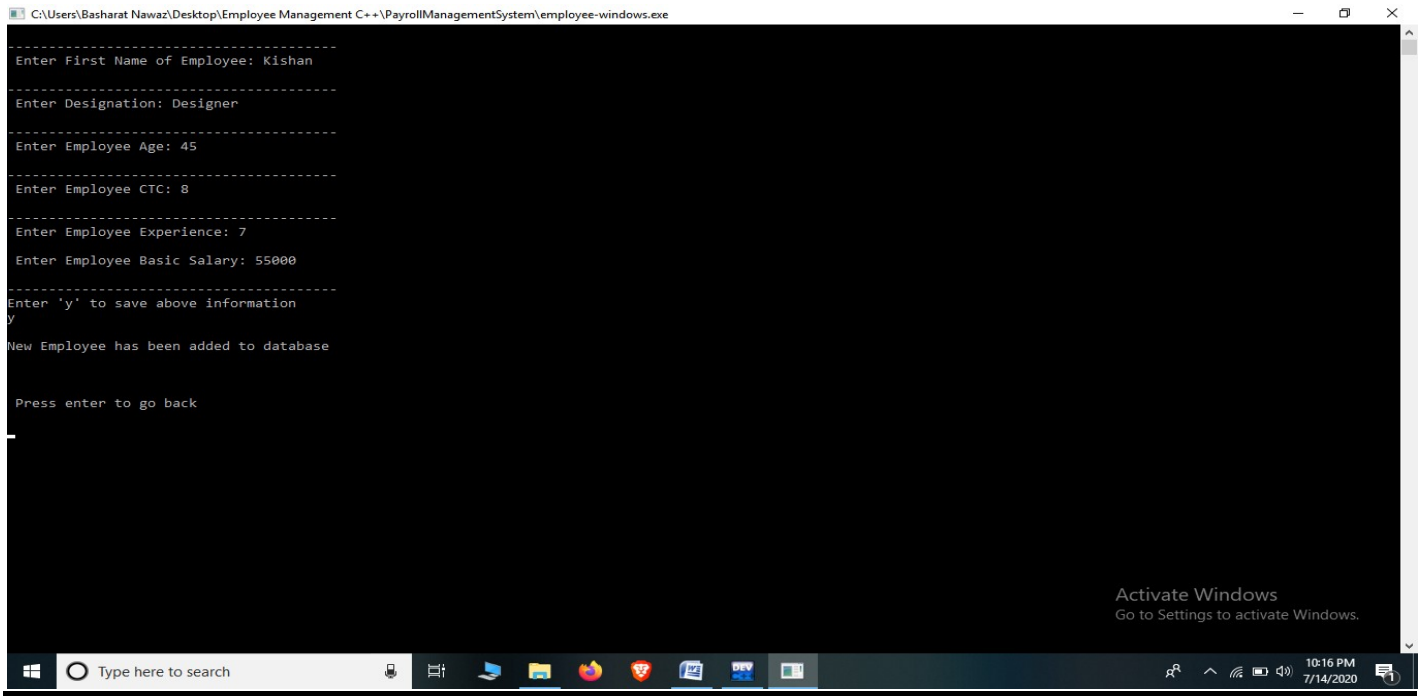

C:\Users\Basharat Nawaz\Desktop\Employee Management C++\PayrollManagementSystem\employee-windows.exe
List of Employees
NAME | ID | DESIGNATION
bash 2 Developer
num 3 Developer
Ram 4 Manager
Arjun 5 Supervisor
Rahul 6 Designer
Press enter to go back
Activate Windows
Go to Settings to activate Windows.
Type here to search
10:13 PM
7/14/2020


C:\Users\Basharat Nawaz\Desktop\Employee Management C++\PayrollManagementSystem\employee-windows.exe
Enter Employee ID: 2
Name: bash
Id: 2
Designation: Developer
Age: 2
CTC: 5
Experience: 5
Basic Salary: 80000
Gross Salary: 145000
Press enter to go back
Activate Windows
Go to Settings to activate Windows.
Type here to search
10:14 PM
7/14/2020


C:\Users\Basharat Nawaz\Desktop\Employee Management C++\PayrollManagementSystem\employee-windows.exe
Enter employee id: 2

Enter new designation: Manager

Enter new CTC: 5
Press enter to go back
Activate Windows
Go to Settings to activate Windows.
Type here to search
10:15 PM
7/14/2020


C:\Users\Basharat Nawaz\Desktop\Employee Management C++\PayrollManagementSystem\employee-windows.exe
---
Enter First Name of Employee: Kishan

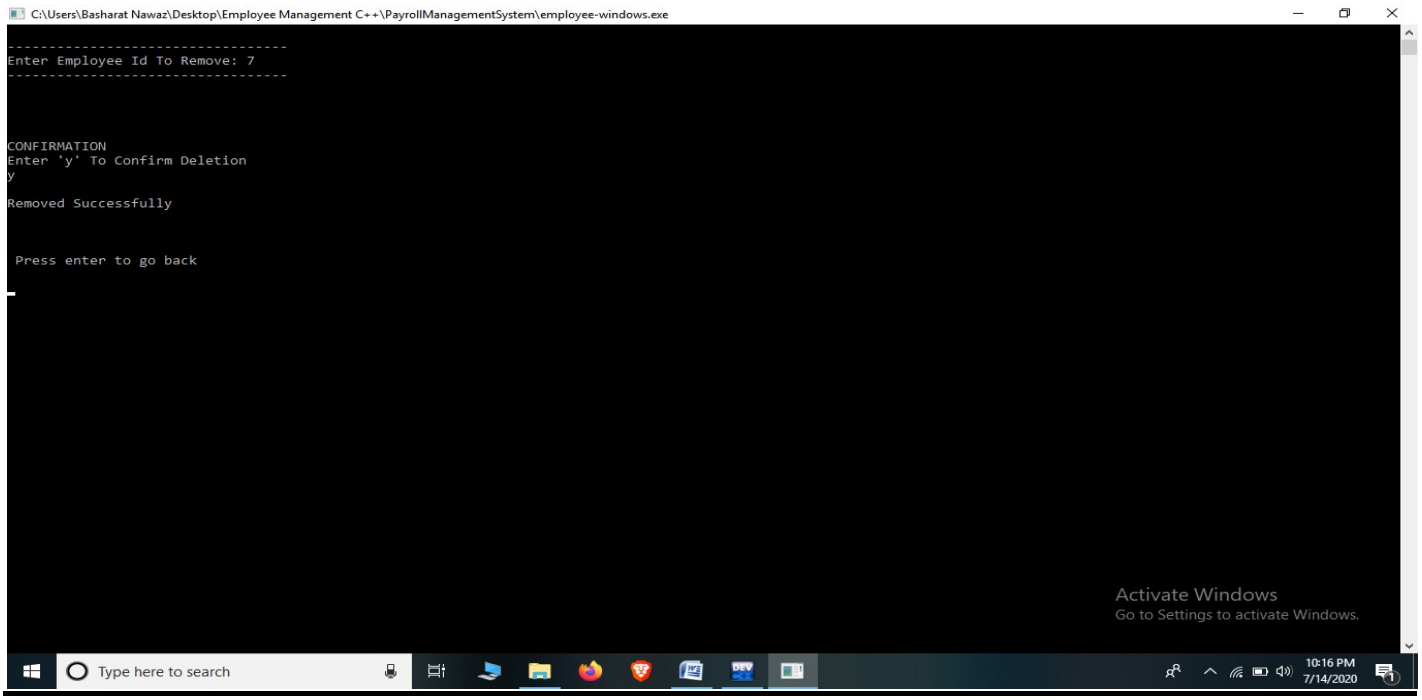
Enter Designation: Designer

Enter Employee Age: 45

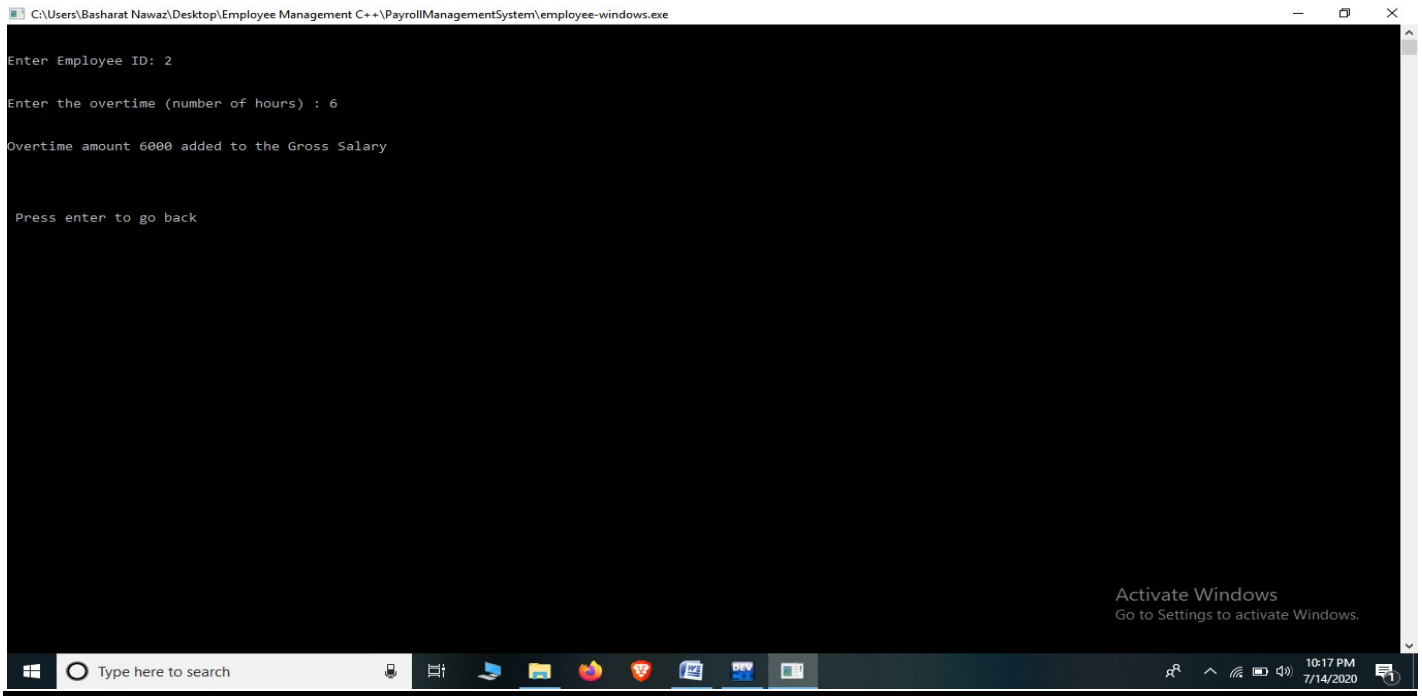
Enter Employee CTC: 8

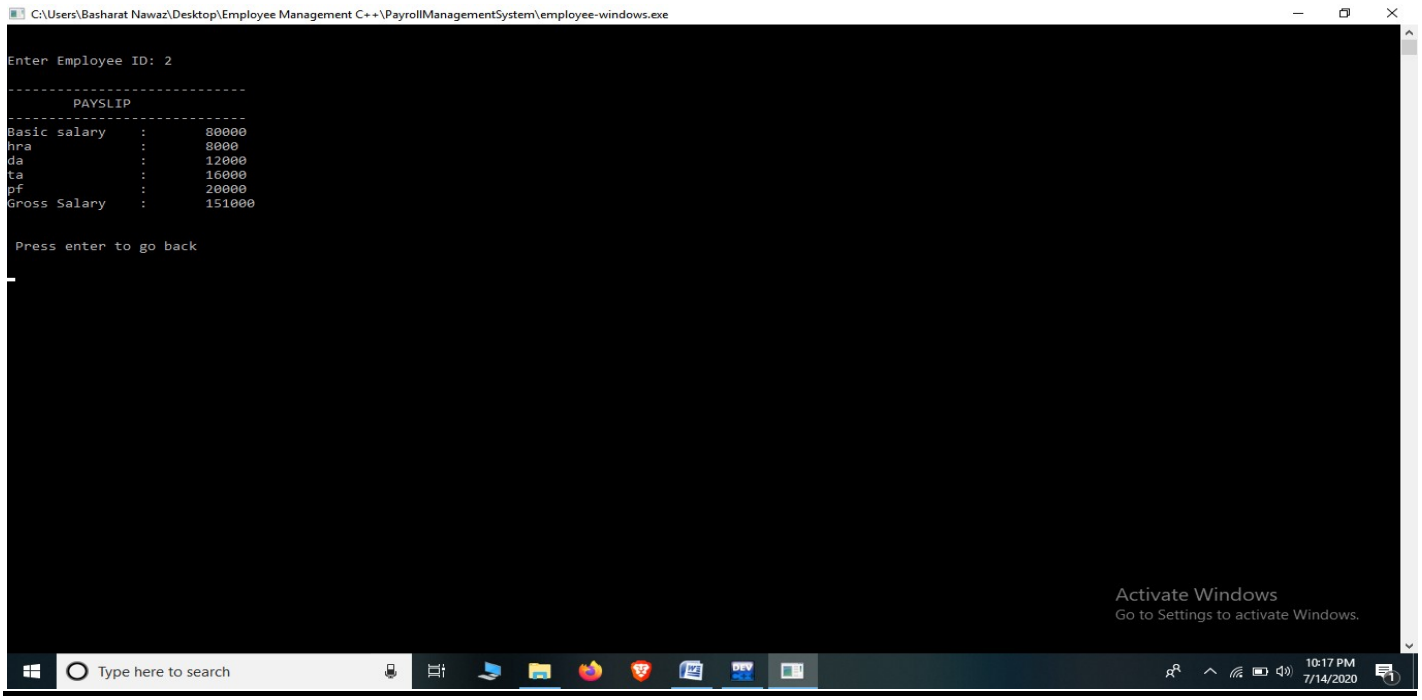
Enter Employee Experience: 7
Enter Employee Basic Salary: 55000

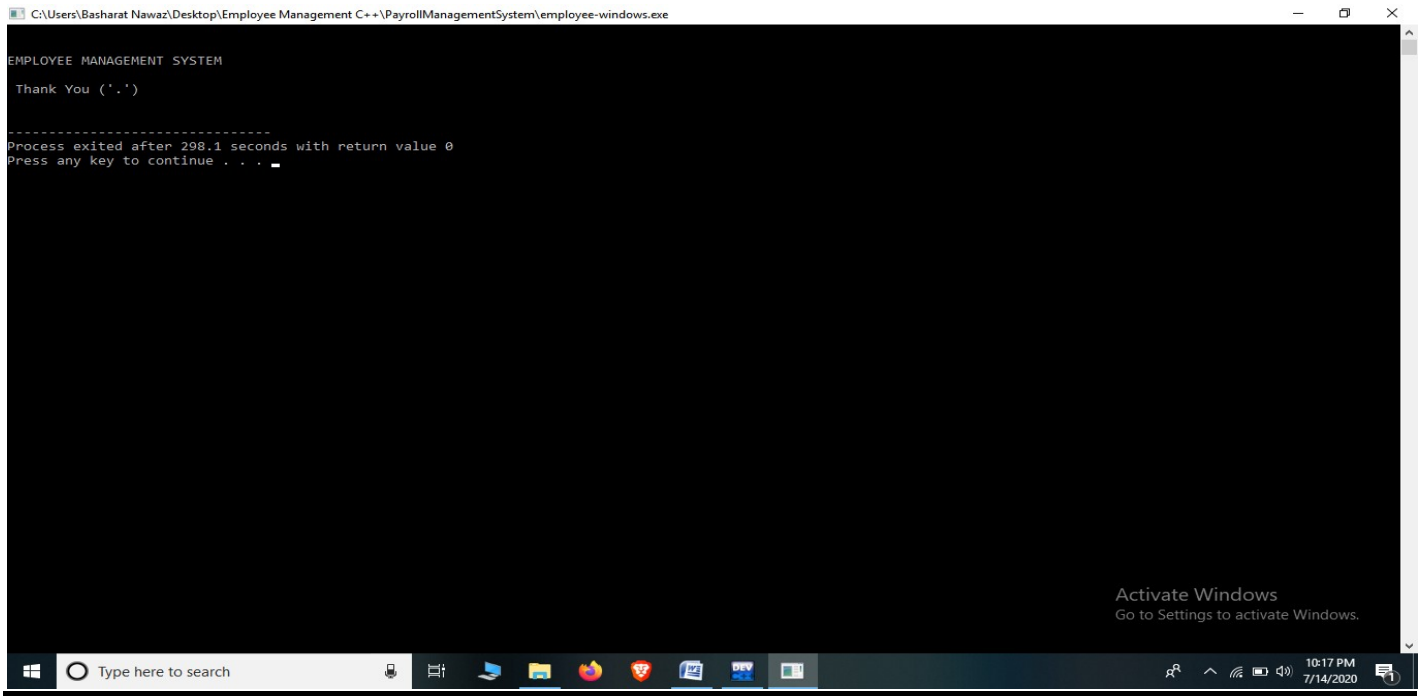
Enter 'y' to save above information
y
New Employee has been added to database
Press enter to go back
Activate Windows
Go to Settings to activate Windows.
Type here to search
10:16 PM
7/14/2020


C:\Users\Basharat Nawaz\Desktop\Employee Management C++\PayrollManagementSystem\employee-windows.exe
---
Enter Employee Id To Remove: 7

CONFIRMATION
Enter 'y' To Confirm Deletion
y
Removed Successfully
Press enter to go back
Activate Windows
Go to Settings to activate Windows.
Type here to search
10:16 PM
7/14/2020


C:\Users\Basharat Nawaz\Desktop\Employee Management C++\PayrollManagementSystem\employee-windows.exe
Enter Employee ID: 2
Enter the overtime (number of hours) : 6
Overtime amount 6000 added to the Gross Salary
Press enter to go back
Activate Windows
Go to Settings to activate Windows.
Type here to search
10:17 PM
7/14/2020


C:\Users\Basharat Nawaz\Desktop\Employee Management C++\PayrollManagementSystem\employee-windows.exe
Enter Employee ID: 2
PAYSLIP
Basic salary : 80000
hra : 8000
da : 12000
ta : 16000
pf : 20000
Gross Salary : 151000
Press enter to go back
Activate Windows
Go to Settings to activate Windows.
Type here to search
10:17 PM
7/14/2020


C:\Users\Basharat Nawaz\Desktop\Employee Management C++\PayrollManagementSystem\employee-windows.exe
EMPLOYEE MANAGEMENT SYSTEM
Thank You ('.')
Process exited after 298.1 seconds with return value 0
Press any key to continue . . .
Activate Windows
Go to Settings to activate Windows.
Type here to search
10:17 PM
7/14/2020

CODE

```
#include<iostream>
#include<conio.h>
#include<cstdlib>
#include<cstring>
#include<cstdio>
#include<windows.h>
#include<unistd.h>
using namespace std;

class employee{
   private:
      // Variables for employee details
      char name[30];
      int id;
      char designation[10];
      int age;
      int ctc;
      int experience;
      float sal;
      float grosssal;
      float hra;
      float da;
      float ta;
      float pf;

      // Utility functions
      void waitForEnter(void){
         cout<<"\n\n\n Press enter to go back \n\n";
         cin.get();
         cin.get();
      }

      // Functions to perform desired actions
      void listEmployees(void){ //To list total employees with Name, Id and Designation
         system("cls");
         FILE *file;
         file= fopen("data.txt", "r");
         cout<<"\n\t     List of Employees\n";
         cout<<"\n-------------------------------------------";
         cout<<"\n NAME       |    ID    |    DESIGNATION\n";
         cout<<"-------------------------------------------";
```

```
        while(fscanf(file, "%s %d %s %d %d %d %f %f ", name, &id, designation, &age, &ctc, &experience, &sal,
&grosssal)!= EOF)
            cout<<"\n"<<name<<"\t\t"<<id<<"\t\t"<<designation;
        fclose(file);
        waitForEnter();
    }

    void showDetails(void){ //Displays all details according to Employee's id
        system("cls");
        FILE *file;
        int checkId;
        cout<<"\n\nEnter Employee ID: ";
        cin>>checkId;
        file= fopen("data.txt", "r");
        while(fscanf(file, "%s %d %s %d %d %d %f %f", &name[0], &id , &designation[0], &age, &ctc, &experience, &sal,
&grosssal)!=EOF)
            if(checkId==id){
                    cout<<"\n----------------------";
                cout<<"\nName: "<<name;
                cout<<"\n----------------------";
                cout<<"\nId: "<<id;
                cout<<"\n----------------------";
                cout<<"\nDesignation: "<<designation;
                cout<<"\n----------------------";
                cout<<"\nAge: "<<age;
                cout<<"\n----------------------";
                cout<<"\nCTC: "<<ctc;
                cout<<"\n----------------------";
                cout<<"\nExperience: "<<experience;
                cout<<"\n----------------------";
                cout<<"\nBasic Salary: "<<sal;
                cout<<"\n----------------------";
                cout<<"\nGross Salary: "<<grosssal;
                cout<<"\n----------------------";
            }
        fclose(file);
        waitForEnter();
    }

    void editExisting(void){ //edits Designation and CTC of an employee
        system("cls");
        int checkId;
        cout<<"\nEnter employee id: ";
```

```
        cin>>checkId;
        char newDesignation[10];
        cout<<"\n-----------------------------";
        cout<<"\nEnter new designation: ";
        cin>>newDesignation;
        int newCtc;
        cout<<"-----------------------------";
        cout<<"\nEnter new CTC: ";
        cin>>newCtc;
        FILE *file, *tempfile;
        file= fopen("data.txt", "r");
        tempfile= fopen("temp.txt", "w");
        while(fscanf(file, "%s %d %s %d %d %d %f %f", &name[0], &id , &designation[0], &age, &ctc, &experience, &sal,
&grosssal)!=EOF){
            if(checkId==id)
               fprintf(tempfile, "%s %d %s %d %d %d %f %f\n", name, id, newDesignation, age, newCtc, experience, sal,
grosssal );
            else
               fprintf(tempfile, "%s %d %s %d %d %d %f %f \n", name, id, designation, age, ctc, experience, sal, grosssal );
        }
        fclose(file);
        fclose(tempfile);
        int isRemoved= remove("data.txt");
        int isRenamed= rename("temp.txt", "data.txt");
        waitForEnter();
    }

    void addNewEmployee(void){ //adding records

      system("cls");
        FILE *file;
        int newid;
        file= fopen("data.txt", "r");
        while(fscanf(file, "%s %d %s %d %d %d %f %f", &name[0], &id , &designation[0], &age, &ctc, &experience, &sal,
&grosssal)!=EOF)
        {
          newid=id+1;
                              }
        fclose(file);

        cout<<"\n----------------------------------------";
        cout<<"\n Enter First Name of Employee: ";
        cin>>name;
```

```
    cout<<"\n---------------------------------------";
    cout<<"\n Enter Designation: ";
    cin>>designation;
    cout<<"\n---------------------------------------";
    cout<<"\n Enter Employee Age: ";
    cin>>age;
    cout<<"\n---------------------------------------";
    cout<<"\n Enter Employee CTC: ";
    cin>>ctc;
    cout<<"\n---------------------------------------";
    cout<<"\n Enter Employee Experience: ";
    cin>>experience;
    cout<<"\n Enter Employee Basic Salary: ";
    cin>>sal;
    cout<<"\n---------------------------------------";

                          hra = sal * (.10);
      da  = sal * (.15);
      ta  = sal * (.20);
      pf  = sal * (.25);
      grosssal = sal + hra + da + ta + pf;


    char ch;
    cout<<"\nEnter 'y' to save above information\n";
    cin>>ch;
    if(ch=='y'){
       FILE  *file;
       file= fopen("data.txt","a");
       fprintf(file, "%s %d %s %d %d %f %f \n", name, newid, designation, age, ctc, experience, sal, grosssal );
       fclose(file);
       cout<<"\nNew Employee has been added to database\n";
    }
    else
       addNewEmployee();
    waitForEnter();
}

void deleteEmployeeDetails(void){ //removing records
    system("cls");
    int checkId;
    cout<<"\n----------------------------------";
    cout<<"\nEnter Employee Id To Remove: ";
```

```
        cin>>checkId;
        char ch;
        cout<<"---------------------------------";
        cout<<"\n\n\n\n\nCONFIRMATION\nEnter 'y' To Confirm Deletion \n";
        cin>>ch;
        if(ch=='y'){
           FILE *file, *tempfile;
           file= fopen("data.txt", "r");
           tempfile= fopen("temp.txt", "w");
           while(fscanf(file, "%s %d %s %d %d %d %f %f", &name[0], &id , &designation[0], &age, &ctc, &experience, &sal,
&grosssal)!=EOF)
              if(checkId!=id)
                 fprintf(tempfile, "%s %d %s %d %d %d %f %f \n", name, id, designation, age, ctc, experience, sal, grosssal );
           fclose(file);
           fclose(tempfile);
           int isRemoved= remove("data.txt");
           int isRenamed= rename("temp.txt", "data.txt");
           cout<<"\nRemoved Successfully\n";
           waitForEnter();
        }
        else
           deleteEmployeeDetails();
     }
     void addOvertime(void){  //to Calculate salary

         system("cls");
        FILE *file;
        int checkId,over;
                              float newgrosssal;
        cout<<"\n\nEnter Employee ID: ";
        cin>>checkId;
        cout<<"\n\nEnter the overtime (number of hours) : ";
        cin>>over;

        file= fopen("data.txt", "r");
        while(fscanf(file, "%s %d %s %d %d %d %f %f", &name[0], &id , &designation[0], &age, &ctc, &experience, &sal,
&grosssal)!=EOF)
           if(checkId==id){
                              newgrosssal = grosssal + over*1000;
           }
        fclose(file);

        cout<<"\n\nOvertime amount "<<over*1000<<" added to the Gross Salary\n\n";
```

```
        FILE *tempfile;
        file= fopen("data.txt", "r");
        tempfile= fopen("temp.txt", "w");
        while(fscanf(file, "%s %d %s %d %d %d %f %f", &name[0], &id , &designation[0], &age, &ctc, &experience, &sal,
&grosssal)!=EOF){
            if(checkId==id)
               fprintf(tempfile, "%s %d %s %d %d %d %f %f \n", name, id, designation, age, ctc, experience, sal, newgrosssal
);
            else
               fprintf(tempfile, "%s %d %s %d %d %d %f %f \n", name, id, designation, age, ctc, experience, sal, grosssal );
        }
        fclose(file);
        fclose(tempfile);
        int isRemoved= remove("data.txt");
        int isRenamed= rename("temp.txt", "data.txt");
        waitForEnter();


                }
                void generatePay(void){  //to generate pay slip
                        system("cls");
        FILE *file;
        int checkId;
        cout<<"\n\nEnter Employee ID: ";
        cin>>checkId;
        file= fopen("data.txt", "r");
        while(fscanf(file, "%s %d %s %d %d %d %f %f", &name[0], &id , &designation[0], &age, &ctc, &experience, &sal,
&grosssal)!=EOF)
            if(checkId==id){
                cout<<"\n----------------------------";
                        cout<<"\n\tPAYSLIP\n";
                        cout<<"----------------------------";
                        cout<<"\nBasic salary\t:\t"<<sal;
                        cout<<"\nhra\t\t:\t"<<sal*(.10);
                        cout<<"\nda\t\t:\t"<<sal*(.15);
                        cout<<"\nta\t\t:\t"<<sal*(.20);
                        cout<<"\npf\t\t:\t"<<sal*(.25);
                        cout<<"\nGross Salary\t:\t"<<grosssal;
            }
        fclose(file);
        waitForEnter();
```

```
            }


public:
   // Function to serve as end point
   void options(void){ //menu
   int login(); //login declaration
         login();//login screen
      while(true){
         system("cls");

         // Options to choose an action
         cout<<"\n\t\t\t>>>>>>>>>  EMPLOYEE MANAGEMENT SYSTEM  <<<<<<<<<";
         cout<<"\n";
         cout<<"\n\t\t\t----------------------------------------------";
         cout<<"\n\t\t\tENTER   1:   To View List of Employees";
         cout<<"\n\t\t\t----------------------------------------------";
         cout<<"\n\t\t\tENTER   2:   To View Employee Details";
         cout<<"\n\t\t\t----------------------------------------------";
         cout<<"\n\t\t\tENTER   3:   To Modify Existing Employee Details";
         cout<<"\n\t\t\t----------------------------------------------";
         cout<<"\n\t\t\tENTER   4:   To Add New Employee Details";
         cout<<"\n\t\t\t----------------------------------------------";
         cout<<"\n\t\t\tENTER   5:   To Remove an Employee Details";
         cout<<"\n\t\t\t----------------------------------------------";
         cout<<"\n\t\t\tENTER   6:   To Add Overtime";
         cout<<"\n\t\t\t----------------------------------------------";
         cout<<"\n\t\t\tENTER   7:   To Generate PaySlip";
         cout<<"\n\t\t\t----------------------------------------------";
                                    cout<<"\n\t\t\tENTER   0:   To Exit    ";
         cout<<"\n\t\t\t----------------------------------------------";
         cout<<"\n\n\t\t\t   Please Enter Your Choice: ";

         // Taking the action input
         int choice;
         cin>>choice;
         // Calling relevant function as per choice
         switch (choice) {
            case 0:
                  system("CLS");
               cout<<"\n\nEMPLOYEE MANAGEMENT SYSTEM \n\n Thank You ('.') \n\n ";
               Sleep(10);
               return;
```

```
            case 1:
               listEmployees();
               break;
            case 2:
               showDetails();
               break;
            case 3:
               editExisting();
               break;
            case 4:
               addNewEmployee();
               break;
            case 5:
               deleteEmployeeDetails();
               break;
            case 6:
               addOvertime();
               break;
            case 7:
               generatePay();
               break;
            default:
               cout<<"\n Sorry! I don't understand that! \n";
               break;
         }

      }
   }

};

int main(){
   // Call the options function
   employee e;
   e.options();
   return 0;
}

int login(){ //login procedure
  string pass ="";
  char ch;
  cout <<"\n\n\n\n\t\t\t\t\tEMPLOYEE MANAGEMENT SYSTEM";
  cout <<"\n\n\n\n\n\t\t\t\t\tEnter Your Password :";
```

```
  ch = _getch();
  while(ch != 13){//character 13 is enter
    pass.push_back(ch);
    cout << '*';
    ch = _getch();
  }
  if(pass == "pass"){
        cout<<"\n\n\n\t\t\t\t\tLOADING \n\t\t\t\t\t";
        for(int a=1;a<8;a++) // Change 'a<?' to how many * you want
        {
              Sleep(500);
              cout << "...";
        }
    cout << "\n\n\n\t\t\t\t\tAccess Granted!! \n\n\n";

    system("PAUSE");
    system("CLS");
  }else{
    cout << "\nAccess Aborted...\n";
    login();
  }
}
```