

ACADEMIC YEAR: 2020-21

PROJECT REPORT ON
EMPLOYEE MANAGEMENT SYSTEM

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CLASS : XII
SUBJECT : COMPUTER SCIENCE
SUB CODE : 083

MOTHER'S PUBLIC SCHOOL
BHUBANESWAR



BONAFIDE CERTIFICATE

This is to hereby certify that AYANANSHU MOHANTY of Class XII, Section A, Mother's Public School, Bhubaneswar with Roll Number: _____ has satisfactorily completed the project in COMPUTER on EMPLOYEE MANAGEMENT SYSTEM in partial fulfilment of AISSE as prescribed by CBSE in the year 2020 – 2021.

This work was carried out by him under our supervision and guidance.

Principal's Signature

Teacher's Signature

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I express deep sense of gratitude to The Almighty God for giving me strength for the successful completion of the project.

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PROJECT ON EMPLOYEE MANAGEMENT SYSTEM

INTRODUCTION

Employee Management system is an application that enables users to create and store Employee Records. The application also provides facilities of a database system which enables user to view their information stored in the database. This application is helpful to department of the organization which maintains data of employees related to their organization.

It receives the username and password from the user to log in and register. It keeps the record of user salary, his department of working, his age and also his date of joining. It also divides the organization into two levels for access so that it is easier for the superiors to manipulate the data as per their convenience. It adds a new employee, his salary, department, updates an existing salary, list of employees and his age.

OBJECTIVES OF THE PROJECT

The objective of this project is to let the students apply the programming knowledge into a real-world situation/problem and expose the students to how programming skills help in developing good software.

1. Write programs utilizing modern software tools.
2. Apply object-oriented programming principles effectively when developing small to medium sized projects.
3. Write effective procedural code to solve small to medium sized problems.
4. Students will demonstrate a of knowledge in computer science, as exemplified in the areas of systems, theory and software development.
5. Students will demonstrate ability to conduct a research or applied Computer Science project, requiring writing and presentation skills which exemplify scholarly style in computer science.

PROPOSED SYSTEM

Today one cannot afford to rely on the fallible human beings to stand against today's merciless competition where saying "to err is human" is no longer valid, it's outdated to rationalize your mistake. So, to keep pace with time, to bring about the best result without malfunctioning and greater efficiency and also to replace the unending heaps of files with a much-sophisticated hard disk of the computer one has to use data management software.

Software has become an essential factor for all organizations for higher efficiency and ease the tedious work that data management usually worked with. There is now abundance of software in markets, which have helped in making the organizations work easier and efficiently. Data management initially had to maintain a lot of ledgers, and a lot of paper work had to be done but now software has made their work faster and easier. Now this software only has to be loaded on the computer and work can be done.

This prevents the waste of a lot of time and money. The work becomes fully automated and any information regarding the organization can be obtained by the click of a button. Moreover, this is an era of computers and of automating, thus such an organization gives a better look to the corporation.

PRELIMINARY REQUIREMENTS

The following table has been used in our program which has been generated by this block of code:

```
create table employee_info (ID char(6) not null primary key, Name varchar(40) not null, Gender char(1), Department varchar(50), Level_of_Access char(1), Salary integer, Age integer, Date_Of_Joining date, Password varchar(40));
```

Field	Type	Null	Key	Default	Extra
ID	char(6)	NO	PRI	NULL	
Name	varchar(40)	NO		NULL	
Gender	char(1)	YES		NULL	
Department	varchar(50)	YES		NULL	
Level_of_Access	char(1)	YES		NULL	
Salary	int	YES		NULL	
Age	int	YES		NULL	
Date_Of_Joining	date	YES		NULL	
Password	varchar(40)	YES		NULL	

An Example:

ID	Name	Gender	Department	Level_of_Access	Salary	Age	Date_Of_Joining	Password
542488	Chelsea Greene	F	HR	1	2000000	25	2010-05-06	chelseavoyager3
546942	Katherine Fernandez	F	HR	1	2400000	47	2005-08-14	Katherinelovescats22
546947	Alan Mason	M	HR	1	2400000	35	2009-03-11	StonedHarmony
546981	Thomas Riley	M	IT	2	5200000	47	2005-08-14	thomas_riley123
563223	Dennis Sharp	M	Analytics	1	1800000	25	2017-08-22	Dionysius_Sharp321

SOURCE CODE

```
import random

import mysql.connector

connection_object=mysql.connector.connect (host="DESKTOP-GGWPEZ4", user="Ayananshu",\
                                           passwd="undergroundSamurai", database="employee_management")

if connection_object.is_connected():
    print('Connection was successful')
else:
    print("Connection was unsuccessful")

cursor=connection_object.cursor()          #Creates the connection with the SQL Database


def level_one_menu(employee_id,password):
    """
    Displays the Level 1 Employee Menu.
    """
    print("ACCESS LEVEL 1")
    print("")
    print("1.VIEW YOUR DETAILS")
    print("2.ALTER PERSONAL INFO")
    print("3.VIEW EMPLOYEE LIST")
    choice=input("Enter your choice: ")
    if choice=="1":
        view_your_details(employee_id)
    elif choice=="2":
        alter_personal_info(employee_id)
    elif choice=="3":
        employee_list()
    else:
        print("Sorry, invalid choice, please try again.")
        print("")
```

```
level_one_menu(employee_id,password)
```

```
def level_two_menu(employee_id,password):
```

```
    """
```

```
    Displays the Level 2 Employee Menu.
```

```
    """
```

```
    print("ACCESS LEVEL 2")
```

```
    print("")
```

```
    print("1.VIEW YOUR DETAILS")
```

```
    print("2.VIEW EMPLOYEE LIST")
```

```
    print("3.VIEW DETAILS OF LEVEL 1 EMPLOYEES")
```

```
    print("4.REGISTER AN EMPLOYEE")
```

```
    print("5.ALTER PERSONAL INFO")
```

```
    print("6.ALTER LEVEL 1 EMPLOYEE INFO")
```

```
    print("7.DELETE A RECORD OF LEVEL ONE EMPLOYEE")
```

```
    choice=input("Enter your choice: ")
```

```
    if choice=="1":
```

```
        view_your_details(employee_id)
```

```
    elif choice=="2":
```

```
        employee_list()
```

```
    elif choice=="3":
```

```
        view_level_one_details()
```

```
    elif choice=="4":
```

```
        register_employee()
```

```
    elif choice=="5":
```

```
        alter_personal_info(employee_id)
```

```
    elif choice=="6":
```

```
        alter_level_one_info()
```

```
    elif choice=="7":
```

```
        delete_record()
```

else:

print("Sorry, invalid choice, please try again.")

print("")

level_two_menu(employee_id,password)

def view_your_details(employee_id):

"""

Displays the details of the current user.

"""

cursor.execute("select * from employee_info where ID=%s" %(employee_id,))

data=cursor.fetchall()

print("ID: ", data[0][0])

print("Name: ", data[0][1])

print("Gender: ", data[0][2])

print("Department: ", data[0][3])

print("Access Level: ", data[0][4])

print("Salary: ", data[0][5])

print("Age: ", data[0][6])

print("Date of joining: ", data[0][7])

print("Password: ", data[0][8])

def view_level_one_details():

"""

Displays the details(except password) of all the Level 1 Employees.

This function can be accessed by Level 2 Employees only.

"""

cursor.execute("select * from employee_info where Level_of_Access=1")

data=cursor.fetchall()

for i in data:

```

print("ID: ", i[0])
print("Name: ", i[1])
print("Gender: ", i[2])
print("Department: ", i[3])
print("Access Level: ", i[4])
print("Salary: ", i[5])
print("Age: ", i[6])
print("Date of joining: ", i[7])
print("")

```

```
def register_employee():
```

```
    """
```

```
    Registers the details of a new employee and generates a new password.
```

```
    (New password is supposed to be used for first time login.
```

```
    Employees can modify their password after logging in.)
```

```
    *This function can be accessed by Level 2 Employees only.*
```

```
    """
```

```
    emp_id=input("Enter ID of Employee whose details you want to register: ")
```

```
    emp_name=input("Enter Employee Name: ")
```

```
    emp_gen=input("Enter Gender: ")
```

```
    emp_level="1"
```

```
    emp_dept=input("Enter Department: ")
```

```
    emp_salary=int(input("Enter Salary: "))
```

```
    emp_age=int(input("Enter Age: "))
```

```
    emp_doj=int(input("Enter Date of joining (YYYYMMDD): "))
```

```
    emp_pas="password"+str(random.randint(10000,99999))
```

```
    cursor.execute("insert into employee_info values('{}','{}','{}','{}','{}',{},{},{},{})"\
```

```
    .format(emp_id,emp_name,emp_gen,emp_dept,emp_level,emp_salary,emp_age,emp_doj,emp_pas))
```

```
    connection_object.commit()
```

```
print("Employee registered successfully with the password:",emp_pas)
print("")
```

```
def alter_personal_info(employee_id):
    """
    Allows the user to update their information.
    """
    print("1.DEPARTMENT\n2.PASSWORD")
    ch=int(input("Enter choice of category to change: "))
    if ch==1:
        dept=input("Enter new department: ")
        cursor.execute("update employee_info set Department='{}' where ID={}{}\n"
            .format(dept,employee_id))
        connection_object.commit()
        print("Department changed successfully")
        print("")
    elif ch==2:
        cursor.execute("select * from employee_info where ID={}{}\n".format(employee_id))
        data=cursor.fetchall()
        oldpass=data[0][8]
        print("Your old password is: ",oldpass)
        print("")
        change_password()

def change_password():
    """
    Allows the user to change their password and checks whether the password meets certain criteria.
    (Password must be greater than 8 characters in length and must have atleast 1 lowercase character,
    1 uppercase character, 1 number, and 1 special character.)
    """
```

```

"""

print("PASSWORD NAMING RULES")

print("Password must be greater than 8 characters in length.")

print("""Password must have atleast 1 lowercase character, 1 uppercase character, 1 number,\
and 1 special character.""")

newpass=input("Enter new password: ")

newpass_undercase=""
newpass_uppercase=""
newpass_numbers=""
newpass_specialchar=""

newpass_length=len(newpass)

newpass_error=""

for i in newpass:

    if i in "abcdefghijklmnopqrstuvwxyz":

        newpass_undercase=newpass_undercase+i

    elif i in "ABCDEFGHIJKLMNOPQRSTUVWXYZ":

        newpass_uppercase=newpass_uppercase+i

    elif i in "1234567890":

        newpass_numbers=newpass_numbers+i

    else:

        newpass_specialchar=newpass_specialchar+i

if newpass_length<8:

    newpass_error=newpass_error+"1"

if len(newpass_undercase)==0:

    newpass_error=newpass_error+"2"

if len(newpass_uppercase)==0:

    newpass_error=newpass_error+"3"

if len(newpass_numbers)==0:

    newpass_error=newpass_error+"4"

if len(newpass_specialchar)==0:

    newpass_error=newpass_error+"5"

```

```

if "1" in newpass_error:
    print("Length of the password is too short.")
if "2" in newpass_error:
    print("No lowercase characters are present in the password.")
if "3" in newpass_error:
    print("No uppercase characters are present in the password.")
if "4" in newpass_error:
    print("No numbers are present in the password.")
if "5" in newpass_error:
    print("No special characters are present in the password.")
number_of_errors=len(newpass_error)
if number_of_errors>0:
    print("INVALID PASSWORD")
    print("")
    change_password()
if number_of_errors==0:
    password_confirm(newpass)

```

```

def password_confirm(newpass):
    """
    Confirms the validity of the new password entered by the user.
    """
    newpasscon=input("Confirm new password: ")
    if newpass == newpasscon:
        cursor.execute("update employee_info set Password = '{}' where ID={}"\
            .format(newpass,employee_id))
        connection_object.commit()
        print("Password changed successfully")
        print("")
    else:

```



```
print("Passwords don't match, please try again.")
print("")
password_confirm(newpass)
```

```
def employee_list():
    """
    Displays the Employee ID and Name of all the employees.
    """
    cursor.execute("select * from employee_info order by Name asc")
    data=cursor.fetchall()
    print("Employee ID      Name")
    for i in data:
        print(i[0], "      ", i[1])
    print("")
```

```
def alter_level_one_info():
    """
    Allows Level 2 Employees to alter the Department and increase Salary of Level 1 Employees.
    """
    emp_id=input("Enter ID of employee whose data you want to change: ")
    cursor.execute("select * from employee_info where Level_of_Access=1")
    data=cursor.fetchall()
    data_list=[]
    l=len(data)
    for i in range(l):
        data_list=data_list+[data[i][0]]
    if emp_id in data_list:
        print("1.DEPARTMENT\n2.SALARY(10% increment)")
        ch=int(input("Enter choice of category to change: "))
```

```

if ch==1:

    dept=input("Enter new department: ")

    cursor.execute("update employee_info set Department = '{}' where ID={}\"\n
                    .format(dept,emp_id))

    connection_object.commit()

    print("Department changed successfully.")

    print("")

elif ch==2:

    cursor.execute("select * from employee_info where ID=%s" %(emp_id,))

    emp_data=cursor.fetchall()

    sal=emp_data[0][5]

    sal=int(sal*110/100)

    cursor.execute("update employee_info set Salary ={} where ID={}\"\n.format(sal,emp_id))

    connection_object.commit()

    print("Salary increased by 10% successfully. New Salary=",sal)

    print("")

else:

    print("Invalid ID, please try again.")

    alter_level_one_info()

```

```

def delete_record():

    """

    Deletes the record of an employee.

    *Can be Accessed by Level 2 Employees only.*

    """

    emp_id=input("Enter ID of employee whose data you want to delete: ")

    cursor.execute("Select ID from employee_info where Level_of_Access=1")

    data=cursor.fetchall()

    data_list=[]

    l=len(data)

```

```

for i in range(l):
    data_list=data_list+[data[i][0]]
if emp_id in data_list:
    cursor.execute("delete from employee_info where ID='{}'.format(emp_id))
    connection_object.commit()
    print("Record of employee deleted successfully")
    print("")
else:
    print("Invalid ID, please try again.")
    delete_record()

```

```

def login():
    """
    Displays the Login Page.
    """
    login_error="T"
    while login_error=="T":
        print("LOGIN")
        employee_id=int(input("Enter Employee ID: "))
        password=input("Enter password: ")
        cursor.execute("select * from employee_info where ID=%s" %(employee_id,))
        data=cursor.fetchall()
        if data==[]:
            print("Employee ID does not exist")
            print("")
            print("")
        elif data[0][8]==password:
            print("LOGIN SUCCESSFUL")
            login_error="F"
            return(data[0][4],employee_id,password)

```

else:

print("LOGIN UNSUCCESSFUL")

print("Employee ID and Password do not match")

print("RETRY LOGGING IN")

print("")

print("")

login_status,employee_id,password=login()

a="Y"

while a in "Yy":

if login_status=="1":

level_one_menu(employee_id,password)

elif login_status=="2":

level_two_menu(employee_id,password)

a=input("Do you want to continue?(Y/N): ")

print("")

while a not in "YyNn":

print("Please enter your choice again.")

print("")

a=input("Do you want to continue?(Y/N): ")

print("")

print("")

print("THANK YOU FOR VISITING")

OUTPUT

FOR ACCESS LEVEL 2

ACCESS LEVEL 2 LOGIN AND MENU

```
IPython console
Python 3.8.5 (default, Sep 3 2020, 21:20:08) [MSC v.1916 64 bit (AMD64)]
Type "copyright", "credits" or "license()" for more information.

IPython 7.19.0 -- An enhanced Interactive Python.
Restarting kernel...

In [1]: runfile('C:/Users/Ayananshu Mohanty/Python Programs/Computer_Project.py', wdir='C:/Users/Ayananshu Mohanty/Python Programs')
Connection was successful
LOGIN
Enter Employee ID: 546981
Enter password: Thomas_Riley123
LOGIN SUCCESSFUL
ACCESS LEVEL 2

1.VIEW YOUR DETAILS
2.VIEW EMPLOYEE LIST
3.VIEW DETAILS OF LEVEL 1 EMPLOYEES
4.REGISTER AN EMPLOYEE
5.ALTER PERSONAL INFO
6.ALTER LEVEL 1 EMPLOYEE INFO
7.DELETE A RECORD OF LEVEL ONE EMPLOYEE

Enter your choice: |
```

VIEWING OWN DETAILS

```
IPython console
Python 3.8.5 (default, Sep 3 2020, 21:20:08) [MSC v.1916 64 bit (AMD64)]
Type "copyright", "credits" or "license()" for more information.

IPython 7.19.0 -- An enhanced Interactive Python.
Restarting kernel...

In [1]: runfile('C:/Users/Ayananshu Mohanty/Python Programs/Computer_Project.py', wdir='C:/Users/Ayananshu Mohanty/Python Programs')
Connection was successful
LOGIN
Enter Employee ID: 546981
Enter password: Thomas_Riley123
LOGIN SUCCESSFUL
ACCESS LEVEL 2

1.VIEW YOUR DETAILS
2.VIEW EMPLOYEE LIST
3.VIEW DETAILS OF LEVEL 1 EMPLOYEES
4.REGISTER AN EMPLOYEE
5.ALTER PERSONAL INFO
6.ALTER LEVEL 1 EMPLOYEE INFO
7.DELETE A RECORD OF LEVEL ONE EMPLOYEE

Enter your choice: 1
ID: 546981
Name: Thomas Riley
Gender: M
Department: IT
Access Level: 2
Salary: 5200000
Age: 27
Date of joining: 2005-08-14
Password: Thomas_Riley123

Do you want to continue?(Y/N): |
```

VIEWING EMPLOYEE LIST

```
IPython console
Console 1/1A

ACCESS LEVEL 2
1.VIEW YOUR DETAILS
2.VIEW EMPLOYEE LIST
3.VIEW DETAILS OF LEVEL 1 EMPLOYEES
4.REGISTER AN EMPLOYEE
5.ALTER PERSONAL INFO
6.ALTER LEVEL 1 EMPLOYEE INFO
7.DELETE A RECORD OF LEVEL ONE EMPLOYEE

Enter your choice: 2
Employee ID      Name
546947           Alan Mason
542488           Chelsea Greene
563223           Dennis Sharp
546942           Katherine Fernandez
546981           Thomas Riley

Do you want to continue?(Y/N): |
```

Activate Windows
Go to Settings to activate Windows.

VIEWING ALL THE DETAILS OF ACCESS LEVEL 1 EMPLOYEES (EXCEPT FOR THEIR PASSWORDS)

```
IPython console
Console 1/1A

ACCESS LEVEL 2
1.VIEW YOUR DETAILS
2.VIEW EMPLOYEE LIST
3.VIEW DETAILS OF LEVEL 1 EMPLOYEES
4.REGISTER AN EMPLOYEE
5.ALTER PERSONAL INFO
6.ALTER LEVEL 1 EMPLOYEE INFO
7.DELETE A RECORD OF LEVEL ONE EMPLOYEE

Enter your choice: 3
ID: 542488
Name: Chelsea Greene
Gender: F
Department: HR
Access Level: 1
Salary: 2000000
Age: 25
Date of joining: 2010-05-06

ID: 546942
Name: Katherine Fernandez
Gender: F
Department: HR
Access Level: 1
Salary: 2400000
Age: 47
Date of joining: 2005-08-14

ID: 546947
Name: Alan Mason
Gender: M
Department: HR
Access Level: 1
Salary: 2400000
Age: 35
Date of joining: 2009-03-11

ID: 563223
Name: Dennis Sharp
Gender: M
Department: Analytics
Access Level: 1
Salary: 1800000
Age: 25
Date of joining: 2017-08-22

Do you want to continue?(Y/N): |
```

Activate Windows
Go to Settings to activate Windows.

REGISTERING A NEW EMPLOYEE

```
IPython console
Console 1/A
ACCESS LEVEL 2
1.VIEW YOUR DETAILS
2.VIEW EMPLOYEE LIST
3.VIEW DETAILS OF LEVEL 1 EMPLOYEES
4.REGISTER AN EMPLOYEE
5.ALTER PERSONAL INFO
6.ALTER LEVEL 1 EMPLOYEE INFO
7.DELETE A RECORD OF LEVEL ONE EMPLOYEE

Enter your choice: 4

Enter ID of Employee whose details you want to register: 574422

Enter Employee Name: Margot Becker

Enter Gender: F

Enter Department: IT

Enter Salary: 3600000

Enter Age: 38

Enter Date of joining (YYYYMMDD): 20090408
Employee registered successfully with the password: password59151

Do you want to continue?(Y/N): |
```

Activate Windows
Go to Settings to activate Windows.

ALTERING OWN DEPARTMENT AND PASSWORD

```
IPython console
Console 1/A
ACCESS LEVEL 2
1.VIEW YOUR DETAILS
2.VIEW EMPLOYEE LIST
3.VIEW DETAILS OF LEVEL 1 EMPLOYEES
4.REGISTER AN EMPLOYEE
5.ALTER PERSONAL INFO
6.ALTER LEVEL 1 EMPLOYEE INFO
7.DELETE A RECORD OF LEVEL ONE EMPLOYEE

Enter your choice: 5
1.DEPARTMENT
2.PASSWORD

Enter choice of category to change: 1

Enter new department: Analytics
Department changed successfully

Do you want to continue?(Y/N): Y

ACCESS LEVEL 2
1.VIEW YOUR DETAILS
2.VIEW EMPLOYEE LIST
3.VIEW DETAILS OF LEVEL 1 EMPLOYEES
4.REGISTER AN EMPLOYEE
5.ALTER PERSONAL INFO
6.ALTER LEVEL 1 EMPLOYEE INFO
7.DELETE A RECORD OF LEVEL ONE EMPLOYEE

Enter your choice: 5
1.DEPARTMENT
2.PASSWORD

Enter choice of category to change: 2
Your old password is: Thomas_Riley123

PASSWORD NAMING RULES
Password must be greater than 8 characters in length.
Password must have atleast 1 lowercase character, 1 uppercase character, 1 number, and 1 special character.

Enter new password: Thomas_Riley1234

Confirm new password: Thomas_Riley1234
Password changed successfully

Do you want to continue?(Y/N):
```

Activate Windows
Go to Settings to activate Windows.

ALTERING DEPARTMENT AND INCREASING SALARY OF LEVEL 1 EMPLOYEE

```
IPython console
Console 1/A
ACCESS LEVEL 2
1.VIEW YOUR DETAILS
2.VIEW EMPLOYEE LIST
3.VIEW DETAILS OF LEVEL 1 EMPLOYEES
4.REGISTER AN EMPLOYEE
5.ALTER PERSONAL INFO
6.ALTER LEVEL 1 EMPLOYEE INFO
7.DELETE A RECORD OF LEVEL ONE EMPLOYEE

Enter your choice: 6

Enter ID of employee whose data you want to change: 574422
1.DEPARTMENT
2.SALARY(10% increment)

Enter choice of category to change: 1

Enter new department: HR
Department changed successfully.

Do you want to continue?(Y/N): y

ACCESS LEVEL 2
1.VIEW YOUR DETAILS
2.VIEW EMPLOYEE LIST
3.VIEW DETAILS OF LEVEL 1 EMPLOYEES
4.REGISTER AN EMPLOYEE
5.ALTER PERSONAL INFO
6.ALTER LEVEL 1 EMPLOYEE INFO
7.DELETE A RECORD OF LEVEL ONE EMPLOYEE

Enter your choice: 6

Enter ID of employee whose data you want to change: 574422
1.DEPARTMENT
2.SALARY(10% increment)

Enter choice of category to change: 2
Salary increased by 10% successfully. New Salary= 4356000

Do you want to continue?(Y/N): |
```

FIRING AN EMPLOYEE

```
IPython console
Console 1/A
ACCESS LEVEL 2
1.VIEW YOUR DETAILS
2.VIEW EMPLOYEE LIST
3.VIEW DETAILS OF LEVEL 1 EMPLOYEES
4.REGISTER AN EMPLOYEE
5.ALTER PERSONAL INFO
6.ALTER LEVEL 1 EMPLOYEE INFO
7.DELETE A RECORD OF LEVEL ONE EMPLOYEE

Enter your choice: 7

Enter ID of employee whose data you want to delete: 574422
Record of employee deleted successfully

Do you want to continue?(Y/N): N

THANK YOU FOR VISITING

In [2]: |
```


FOR ACCESS LEVEL 1

FOR ACCESS LEVEL 1 LOGIN AND MENU

```
IPython console
Python 3.8.5 (default, Sep 3 2020, 21:29:08) [MSC v.1916 64 bit (AMD64)]
Type "copyright", "credits" or "license()" for more information.

IPython 7.19.0 -- An enhanced Interactive Python.
Restarting kernel...

In [1]: runfile('C:/Users/Ayananshu Mohanty/Python Programs/Computer_Project.py', wdir='C:/Users/Ayananshu Mohanty/Python Programs')
Connection was successful
LOGIN
Enter Employee ID: 563223
Enter password: Dionysius_Sharp321
LOGIN SUCCESSFUL
ACCESS LEVEL 1

1.VIEW YOUR DETAILS
2.ALTER PERSONAL INFO
3.VIEW EMPLOYEE LIST
Enter your choice: |
```

VIEWING OWN DETAILS

```
IPython console
Console I/A

ACCESS LEVEL 1
1.VIEW YOUR DETAILS
2.ALTER PERSONAL INFO
3.VIEW EMPLOYEE LIST

Enter your choice: 1
ID: 563223
Name: Dennis Sharp
Gender: M
Department: Analytics
Access Level: 1
Salary: 1800000
Age: 25
Date of joining: 2017-08-22
Password: Dionysius_Sharp321

Do you want to continue?(Y/N): |
```

ALTERING PASSWORD

```
IPython console
Console-1/A
ACCESS LEVEL 1
1.VIEW YOUR DETAILS
2.ALTER PERSONAL INFO
3.VIEW EMPLOYEE LIST
Enter your choice: 2
1.DEPARTMENT
2.PASSWORD
Enter choice of category to change: 2
Your old password is: Dionysius_Sharp321
PASSWORD NAMING RULES
Password must be greater than 8 characters in length.
Password must have atleast 1 lowercase character, 1 uppercase character, 1 number, and 1 special character.
Enter new password: Dionysius_Sharp123
Confirm new password: Dionysius_Sharp123
Password changed successfully

Do you want to continue?(Y/N): |
```

Activate Windows
Go to Settings to activate Windows.

VIEWING EMPLOYEE LIST

```
IPython console
Console-1/A
ACCESS LEVEL 1
1.VIEW YOUR DETAILS
2.ALTER PERSONAL INFO
3.VIEW EMPLOYEE LIST
Enter your choice: 3
Employee ID      Name
546947          Alan Mason
542488          Chelsea Greene
563223          Dennis Sharp
546942          Katherine Fernandez
546981          Thomas Riley

Do you want to continue?(Y/N): |
```

Activate Windows
Go to Settings to activate Windows.

ALTERING PASSWORD BUT PASSWORD DOESN'T MEET CRITERIA

```
Python console
Console I/A
1.DEPARTMENT
2.PASSWORD

Enter choice of category to change: 2
Your old password as: Dionysius_Sharp123

PASSWORD NAMING RULES
Password must be greater than 8 characters in length.
Password must have atleast 1 lowercase character, 1 uppercase character, 1 number,and 1 special character.

Enter new password: asdfg
Length of the password is too short.
No uppercase characters are present in the password.
No numbers are present in the password.
No special characters are present in the password.
INVALID PASSWORD

PASSWORD NAMING RULES
Password must be greater than 8 characters in length.
Password must have atleast 1 lowercase character, 1 uppercase character, 1 number,and 1 special character.

Enter new password: asdfg123
No uppercase characters are present in the password.
No special characters are present in the password.
INVALID PASSWORD

PASSWORD NAMING RULES
Password must be greater than 8 characters in length.
Password must have atleast 1 lowercase character, 1 uppercase character, 1 number,and 1 special character.

Enter new password: ASDFG123
No lowercase characters are present in the password.
No special characters are present in the password.
INVALID PASSWORD

PASSWORD NAMING RULES
Password must be greater than 8 characters in length.
Password must have atleast 1 lowercase character, 1 uppercase character, 1 number,and 1 special character.

Enter new password: ASDfg123
No special characters are present in the password.
INVALID PASSWORD

PASSWORD NAMING RULES
Password must be greater than 8 characters in length.
Password must have atleast 1 lowercase character, 1 uppercase character, 1 number,and 1 special character.

Enter new password: ASD.FG
Length of the password is too short.
No lowercase characters are present in the password.
No numbers are present in the password.
INVALID PASSWORD

PASSWORD NAMING RULES
Password must be greater than 8 characters in length.
Password must have atleast 1 lowercase character, 1 uppercase character, 1 number,and 1 special character.

Enter new password: Dionysius_Sharp9999
Confirm new password: Dionysius_Sharp1111
Passwords don't match, please try again.

Confirm new password: Dionysius_Sharp9999
Password changed successfully
```

WHEN INCORRECT LOGIN CREDENTIALS ARE ENTERED

```
Python console
Console I/A
Python 3.8.5 (default, Sep 3 2020, 21:29:08) [MSC v.1916 64 bit (AMD64)]
Type "copyright", "credits" or "license" for more information.

IPython 7.19.0 -- An enhanced Interactive Python.
Restarting kernel...

In [1]: runfile('C:/Users/Ayananshu Mohanty/Python Programs/Computer_Project.py', wdir='C:/Users/Ayananshu Mohanty/Python Programs')
Connection was successful
LOGIN

Enter Employee ID: 111111
Enter password: ASDFGHJ
Employee ID does not exist

LOGIN

Enter Employee ID: 546981
Enter password: ThompsonRiley
LOGIN UNSUCCESSFUL
Employee ID and Password do not match
RETRY LOGGING IN

LOGIN

Enter Employee ID: 546981
Enter password: Thomas_Riley1234
LOGIN SUCCESSFUL
ACCESS LEVEL 2

1.VIEW YOUR DETAILS
2.VIEW EMPLOYEE LIST
3.VIEW DETAILS OF LEVEL 1 EMPLOYEES
4.REGISTER AN EMPLOYEE
5.ALTER PERSONAL INFO
6.ALTER LEVEL 1 EMPLOYEE INFO
7.DELETE A RECORD OF LEVEL ONE EMPLOYEE

Enter your choice:
```

WHEN INCORRECT CHOICES ARE ENTERED INTO THE MENU

```
IPython console
Console - UA

LOGIN

Enter Employee ID: 546981
Enter password: Thomas_Riley1234
LOGIN SUCCESSFUL
ACCESS LEVEL 2

1.VIEW YOUR DETAILS
2.VIEW EMPLOYEE LIST
3.VIEW DETAILS OF LEVEL 1 EMPLOYEES
4.REGISTER AN EMPLOYEE
5.ALTER PERSONAL INFO
6.ALTER LEVEL 1 EMPLOYEE INFO
7.DELETE A RECORD OF LEVEL ONE EMPLOYEE

Enter your choice: 9
Sorry, invalid choice, please try again.

ACCESS LEVEL 2

1.VIEW YOUR DETAILS
2.VIEW EMPLOYEE LIST
3.VIEW DETAILS OF LEVEL 1 EMPLOYEES
4.REGISTER AN EMPLOYEE
5.ALTER PERSONAL INFO
6.ALTER LEVEL 1 EMPLOYEE INFO
7.DELETE A RECORD OF LEVEL ONE EMPLOYEE

Enter your choice: A
Sorry, invalid choice, please try again.

ACCESS LEVEL 2

1.VIEW YOUR DETAILS
2.VIEW EMPLOYEE LIST
3.VIEW DETAILS OF LEVEL 1 EMPLOYEES
4.REGISTER AN EMPLOYEE
5.ALTER PERSONAL INFO
6.ALTER LEVEL 1 EMPLOYEE INFO
7.DELETE A RECORD OF LEVEL ONE EMPLOYEE

Enter your choice: 1
ID: 546981
Name: Thomas Riley
Gender: M
Department: Analytics
Access Level: 2
Salary: 5200000
Age: 47
Date of joining: 2005-08-14
Password: Thomas_Riley1234

Do you want to continue?(Y/N): N

THANK YOU FOR VISITING

In [2]: |
```

Activate Windows
Go to Settings to activate Windows.

HARDWARE AND SOFTWARE REQUIREMENTS

MINIMUM REQUIREMENTS

OPERATING SYSTEM : WINDOWS 7+ / LINUX V3+ / MAC OS V16+
PROCESSOR : Intel Pentium GOLD G54000 / AMD Athlon 200GE
MOTHERBOARD : LGA1151 for Intel / AM4 for AMD
RAM : 2 GB DDR4
HARD DISK : 5 GB
MONITOR
KEYBOARD/MOUSE

RECOMMENDED REQUIREMENTS

OPERATING SYSTEM : WINDOWS 7+ / LINUX V3+ / MAC OS V16+
PROCESSOR : Intel Core i5-9400F / AMD Ryzen 53400g
MOTHERBOARD : LGA1151 for Intel / AM4 for AMD
RAM : 4 GB DDR4
HARD DISK : 10 GB
MONITOR
KEYBOARD/MOUSE

BIBLIOGRAPHY

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