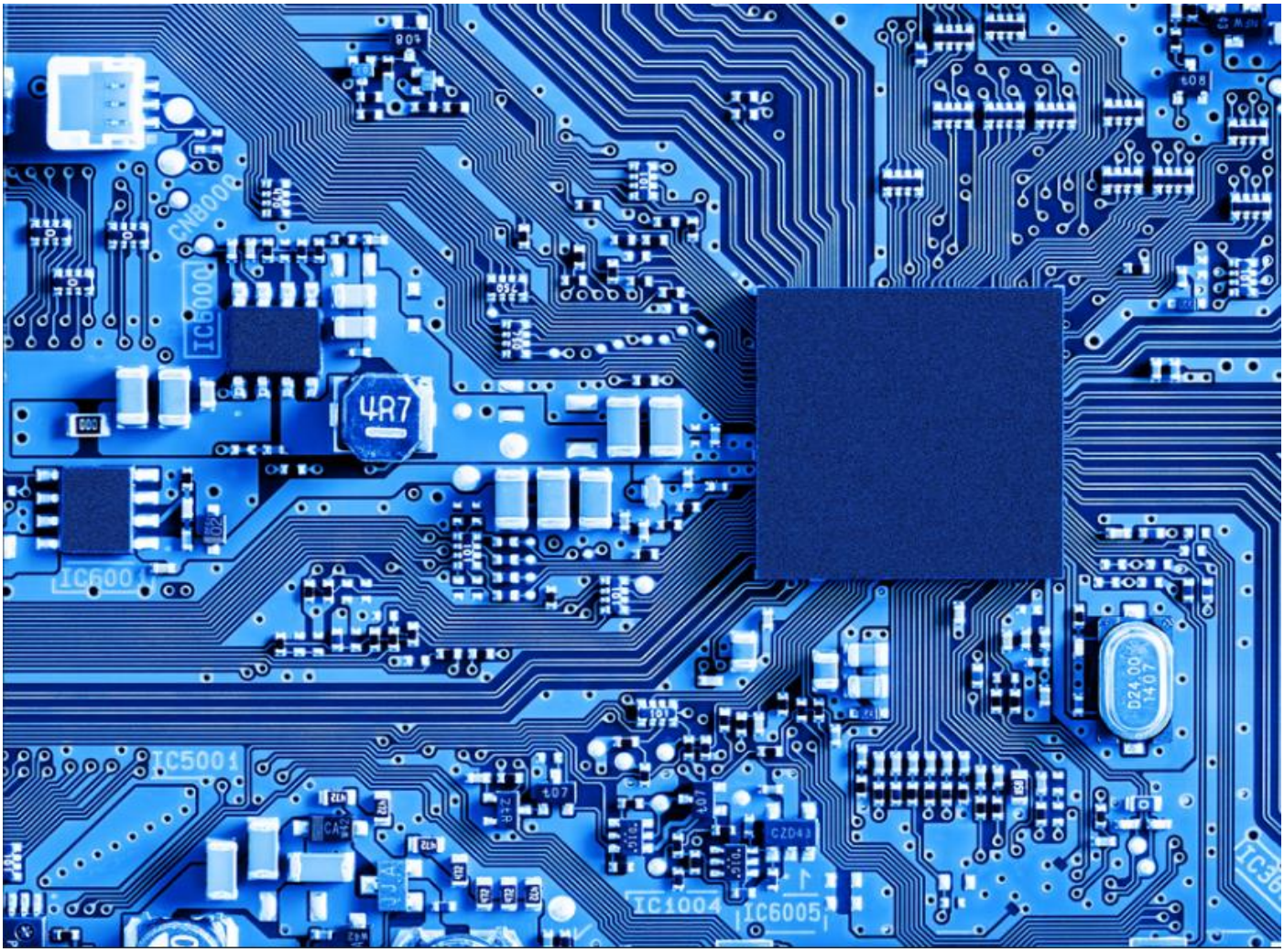
ITI

Lab TWO

PYTHON



Waleed Emad Yahyaa Zakarya

TASK 1

```
# -*- coding: utf-8 -*-
"""
Created on Mon Jul 15 13:24:19 2024

@author: waleed
"""

corr_word = "waleedemad" ;
word_to_view = "------";
num_of_trys = 6 ;

################################################################################
def valid_char(char): #check the validity of char
  if len(char) != 1:
    return False
  # Check if the character is lowercase (a-z)
  return char.islower() or char.isupper()
################################################################################


################################################################################
def extract_unique_chars(word):
  """Extracts unique characters from a word. """
  if not isinstance(word, str):
    return ""  # Handle non-string input

  seen = set()
  unique_chars = ""
  for char in word:
    if char.isalpha() and char not in seen:  # Check for alphabet and uniqueness
      seen.add(char)
      unique_chars += char
  return unique_chars
################################################################################

# ################################################################################
# def remove_char_from_strings(char_to_remove, my_list):
#   """  Removes a character from each string in the list"""
#   for i in range(len(my_list)):
#     my_list[i] = my_list[i].replace(char_to_remove, '');
# ################################################################################


word_char = extract_unique_chars(corr_word);
correct_chars = "";
while ( (num_of_trys > 0) and (len(word_char) != 0) ):
    in_char = input("Enter character pleas(NO SPECIAL CHARACTERS): ");
    if ( not( valid_char(in_char) ) ):
        print("Invalid chatacter or not single input");
    else:
        if (in_char.isupper()):
            in_char = in_char.lower();
```

```
        if (in_char in corr_word):
            temp_char = in_char;
            word_char = word_char.replace(temp_char, '');
            correct_chars= correct_chars + temp_char;
            word_to_view = "";
            for i in corr_word:
                    if (i in correct_chars):
                        word_to_view = word_to_view+i;
                    else:
                            word_to_view = word_to_view+'-';
        else:
            num_of_trys = num_of_trys - 1 ;
            print("!!WRONG CHARACTER TRY AGAIN!!");
            print("!!REMAINING TRYS = %d!!"%num_of_trys);

        print(word_to_view);


if (num_of_trys == 0):
    print (" **************************The correct word is %s **************************"%corr_word);
    print ("!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!YOU ARE HUNGED!!!!!!!!!!!!!!!!!!!!!!!!!!!!!")
else:
    print (" **************************The correct word is %s **************************"%corr_word);
    print ("!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! WINNER WINNER !!!!!!!!!!!!!!!!!!!!!!!!!!!!!")
```

```
In [96]: runfile('E:/IC Design/Digital/ITI Summer camp 2024/scripting/Python/lab two/hang_man.py', wdir='E:/IC Design/Digital/ITI Summer camp 2024/
scripting/Python/lab two')
Enter character pleas(NO SPECIAL CHARACTERS): +
Invalid chatacter or not single input
Enter character pleas(NO SPECIAL CHARACTERS): *
Invalid chatacter or not single input
Enter character pleas(NO SPECIAL CHARACTERS): 1
Invalid chatacter or not single input
Enter character pleas(NO SPECIAL CHARACTERS): aa
Invalid chatacter or not single input
Enter character pleas(NO SPECIAL CHARACTERS): bc
Invalid chatacter or not single input
Enter character pleas(NO SPECIAL CHARACTERS): banana
Invalid chatacter or not single input
Enter character pleas(NO SPECIAL CHARACTERS): B
!!WRONG CHARACTER TRY AGAIN!!
!!REMAINING TRYS = 5!!
------
Enter character pleas(NO SPECIAL CHARACTERS): W
w---------
Enter character pleas(NO SPECIAL CHARACTERS): A
wa------a-
Enter character pleas(NO SPECIAL CHARACTERS): l
wal-----a-
Enter character pleas(NO SPECIAL CHARACTERS): e
walee-e-a-
Enter character pleas(NO SPECIAL CHARACTERS): d
waleede-ad
Enter character pleas(NO SPECIAL CHARACTERS): MM
Invalid chatacter or not single input
Enter character pleas(NO SPECIAL CHARACTERS): m
waleedemad
 **************************The correct word is waleedemad **************************
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!! WINNER WINNER !!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

TASK 2

```
# -*- coding: utf-8 -*-
"""
Created on Mon Jul 15 19:32:09 2024

@author: waleed
"""
#_____________________import libraries for system usage in delay and delay_____________________#
import time
import sys

#_____________________________constant value intialization_____________________________________#
delay_time = 1  # Delay in seconds
correct_pin = 1234;
avail_balance = 50000;
num_of_trys = 4;
one = 3;
continu = "y"
in_pin = 0;

while (one != 1):
    while (num_of_trys>0):
        in_pin = input ("Enter your 4 digit code please : ");
        while (len(in_pin) != 4 or not(in_pin.isdigit())): #check that pin is 4 digit numeric
            print("!!!!!!!!!Invalid choois!!!!!!!!!")
            in_pin = input ("Enter your 4 digit code please : ");
        in_pin = int(in_pin);
        if (correct_pin == in_pin):

            while (continu == "y" or continu == "Y" or continu == "1"):
                print("\n1- Withdraw \n2- Balance Inquiry \n3- Fast Cash \n4- Quit\n");
                chois = input("Choos one of options from (1->4): ");
                if(chois == "1"):
                    while (1):
                        print("Enter withdraw amount (multiple of 200): ");
                        withdraw_amount = int(input());
                        if( (withdraw_amount % 200) != 0):
                            print ("Invalid value\n");
                        else:
                            if (withdraw_amount<=avail_balance):
                                avail_balance = avail_balance - withdraw_amount;
                                print ("PRRR",end="");
                                time.sleep(delay_time)
                                print("R", end="")
                                time.sleep(delay_time)
                                print("R", end="")
                                time.sleep(delay_time)
                                print("R", end="")
                                time.sleep(delay_time)
                                print("R", end="")
                                time.sleep(delay_time)
                                print("R", end="")
                                time.sleep(delay_time)
```

```
                    print("OOCESSED");
                    break;
                else:
                    print("Insufficient funds in your bank account");
        elif(chois == "2"):
            print("Your balance is %d"%avail_balance);
        elif(chois == "3"):
            print("1- 500$ \n2- 1000$ \n3- 5000$ \n4- 10000\n5- 50000");
            choois_invalid = 1;
            while (choois_invalid):
                Fast_cash_valu = input("Enter a choise from (1->5): ");
                if(Fast_cash_valu == "1"):
                    if (500<=avail_balance):
                        avail_balance = 500 - withdraw_amount;
                        print ("PRRR",end="");
                        time.sleep(delay_time)
                        print("R", end="")
                        time.sleep(delay_time)
                        print("R", end="")
                        time.sleep(delay_time)
                        print("R", end="")
                        time.sleep(delay_time)
                        print("R", end="")
                        time.sleep(delay_time)
                        print("R", end="")
                        time.sleep(delay_time)
                        print("OOCESSED");
                        break;
                    else:
                        print("Insufficient funds in your bank account");
                elif(Fast_cash_valu == "2"):
                    if (1000<=avail_balance):
                        avail_balance = 1000 - withdraw_amount;
                        print ("PRRR",end="");
                        time.sleep(delay_time)
                        print("R", end="")
                        time.sleep(delay_time)
                        print("R", end="")
                        time.sleep(delay_time)
                        print("R", end="")
                        time.sleep(delay_time)
                        print("R", end="")
                        time.sleep(delay_time)
                        print("R", end="")
                        time.sleep(delay_time)
                        print("OOCESSED");
                        break;
                    else:
                        print("Insufficient funds in your bank account");
                elif(Fast_cash_valu == "3"):
                    if (5000<=avail_balance):
                        avail_balance = 5000 - withdraw_amount;
                        print ("PRRR",end="");
                        time.sleep(delay_time)
```

```
                print("R", end="")
                time.sleep(delay_time)
                print("R", end="")
                time.sleep(delay_time)
                print("R", end="")
                time.sleep(delay_time)
                print("R", end="")
                time.sleep(delay_time)
                print("R", end="")
                time.sleep(delay_time)
                print("OOCESSED");
                break;
            else:
                print("Insufficient funds in your bank account");
        elif(Fast_cash_valu == "4"):
            if (10000<=avail_balance):
                avail_balance = 10000 - withdraw_amount;
                print ("PRRR",end="");
                time.sleep(delay_time)
                print("R", end="")
                time.sleep(delay_time)
                print("R", end="")
                time.sleep(delay_time)
                print("R", end="")
                time.sleep(delay_time)
                print("R", end="")
                time.sleep(delay_time)
                print("R", end="")
                time.sleep(delay_time)
                print("OOCESSED");
                break;
            else:
                print("Insufficient funds in your bank account");
        elif(Fast_cash_valu == "5"):
            if (50000<=avail_balance):
                avail_balance = 50000 - withdraw_amount;
                print ("PRRR",end="");
                time.sleep(delay_time)
                print("R", end="")
                time.sleep(delay_time)
                print("R", end="")
                time.sleep(delay_time)
                print("R", end="")
                time.sleep(delay_time)
                print("R", end="")
                time.sleep(delay_time)
                print("R", end="")
                time.sleep(delay_time)
                print("OOCESSED");
                break;
            else:
                print("Insufficient funds in your bank account");
        else:
            print("Invalid Choise");
```

```
            elif(chois == "4"):
                print ("Quit.",end="");
                time.sleep(delay_time)
                print(".", end="")
                time.sleep(delay_time)
                print(".", end="")
                time.sleep(delay_time)
                print(".", end="")
                time.sleep(delay_time)
                print(".", end="")
                time.sleep(delay_time)
                print(".", end="")
                time.sleep(delay_time)
                print(".");
                sys.exit(0);
            else:
                print ("!!!!INVALID CHOICE!!!!");

            continu = input("Do you want to make another operatin(y,Y,1): ");

        else:
            print("!!!!!!!!!  WRONG PIN  !!!!!!!!!");
            num_of_trys = num_of_trys - 1;
            print ("ONLY %d TRYS REMAIN PLEAS CONFIRM THAT CORRECT PIN IS ENTERED"%num_of_trys);
    num_of_trys = 3;
    print ("You enter wrong pin more than 3 times pleas wait.",end="");
    time.sleep(delay_time)
    print(".", end="")
    time.sleep(delay_time)
    print(".", end="")
    time.sleep(delay_time)
    print(".", end="")
    time.sleep(delay_time)
    print(".", end="")
    time.sleep(delay_time)
    print(".", end="")
    time.sleep(delay_time)
    print(".");
    one = one - 1;
print ("You are quit");
```

```
In [98]: runfile('E:/IC Design/Digital/ITI Summer camp 2024/scripting/Python/lab two/ATM System.py', wdir='E:/IC Design/Digital/ITI Summer camp 2024/
scripting/Python/lab two')
Enter your 4 digit code please : ****
!!!!!!!!!Invalid choois!!!!!!!!
Enter your 4 digit code please : aaaa
!!!!!!!!!Invalid choois!!!!!!!!
Enter your 4 digit code please : 1597
!!!!!!!!  WRONG PIN  !!!!!!!!
ONLY 3 TRYS REMAIN PLEAS CONFIRM THAT CORRECT PIN IS ENTERED
Enter your 4 digit code please : 1786
!!!!!!!!  WRONG PIN  !!!!!!!!
ONLY 2 TRYS REMAIN PLEAS CONFIRM THAT CORRECT PIN IS ENTERED
Enter your 4 digit code please : 1235
!!!!!!!!  WRONG PIN  !!!!!!!!
ONLY 1 TRYS REMAIN PLEAS CONFIRM THAT CORRECT PIN IS ENTERED
Enter your 4 digit code please : 1236
!!!!!!!!  WRONG PIN  !!!!!!!!
ONLY 0 TRYS REMAIN PLEAS CONFIRM THAT CORRECT PIN IS ENTERED
You enter wrong pin more than 3 times pleas wait.......
Enter your 4 digit code please : 1269
!!!!!!!!  WRONG PIN  !!!!!!!!
ONLY 2 TRYS REMAIN PLEAS CONFIRM THAT CORRECT PIN IS ENTERED
Enter your 4 digit code please : 1111
!!!!!!!!  WRONG PIN  !!!!!!!!
ONLY 1 TRYS REMAIN PLEAS CONFIRM THAT CORRECT PIN IS ENTERED
Enter your 4 digit code please : 8888
!!!!!!!!  WRONG PIN  !!!!!!!!
ONLY 0 TRYS REMAIN PLEAS CONFIRM THAT CORRECT PIN IS ENTERED
You enter wrong pin more than 3 times pleas wait.......
You are quit

In [99]:
```

```
In [99]: runfile('E:/IC Design/Digital/ITI Summer camp 2024/scripting/Python/lab two/ATM System.py', wdir='E:/IC Design/Digital/ITI Summer camp 2024/scripting/Python/lab two')
Enter your 4 digit code please : 1234

1- Withdraw
2- Balance Inquiry
3- Fast Cash
4- Quit

Choos one of options from (1->4): 1
Enter withdraw amount (multiple of 200):
250
Invalid value

Enter withdraw amount (multiple of 200):
2000
PRRRRRRROOCESSED
Do you want to make another operatin(y,Y,1): Y

1- Withdraw
2- Balance Inquiry
3- Fast Cash
4- Quit

Choos one of options from (1->4): 2
Your balance is 48000
Do you want to make another operatin(y,Y,1): y

1- Withdraw
2- Balance Inquiry
3- Fast Cash
4- Quit

Choos one of options from (1->4): 3
1- 500$
2- 1000$
3- 5000$
4- 10000
5- 50000
Enter a choise from (1->5): 5
Insufficient funds in your bank account
Enter a choise from (1->5): 4
PRRRRRRROOCESSED
Do you want to make another operatin(y,Y,1): 4
```

```
In [100]: runfile('E:/IC Design/Digital/ITI Summer camp 2024/scripting/Python/lab two/employee_system_list_of_lists.py', wdir='E:/IC Design/Digital/ITI Summer camp 2024/scripting/Python/lab two')
1- First Process add Employee( name , Salary , Departement, ID)
2- Search on Empolyee by Name
3- Delete Employee
4- Show all Employe
5- Quit

Choose a number from 1 to 5: 1
Enter employee name please : 7amasa
Enter employee salary pleas : 1000
Enter employee department pleas : ic
Enter employee ID please : 123654
1- First Process add Employee( name , Salary , Departement, ID)
2- Search on Empolyee by Name
3- Delete Employee
4- Show all Employe
5- Quit

Choose a number from 1 to 5: 2
Enter employee name : 7amasa
    Name            Salary          Departement          ID
['7amasa', '1000', 'ic', '123654']
1- First Process add Employee( name , Salary , Departement, ID)
2- Search on Empolyee by Name
3- Delete Employee
4- Show all Employe
5- Quit

Choose a number from 1 to 5: 3
Enter employee name to be removed : 7amasa
    Name            Salary          Departement          ID
['7amasa', '1000', 'ic', '123654']
Employee was deleted
1- First Process add Employee( name , Salary , Departement, ID)
2- Search on Empolyee by Name
3- Delete Employee
4- Show all Employe
5- Quit

Choose a number from 1 to 5: 4
    Name            Salary          Departement          ID
[['waleed emad yahya', '1000$', 'Digital IC Design', '20012197'], ['moamed emad yahya', '9000$', 'Analogg IC Design', '20012198'], ['ahmeed emad yahya', '8000$', 'Digital IC Verifi', '20012199'], ['yousef emad
yahya', '7000$', 'Digital IC Fabric', '20012200'], ['nourrr emad yahya', '4000$', 'Digital IC Valida', '20012201'], ['manooo emad yahya', '3000$', 'Digital IC Cleann', '20012202'], ['ahmeed emad yahya',
'2000$', 'Digital IC uuuuuu', '20012203']]
1- First Process add Employee( name , Salary , Departement, ID)
2- Search on Empolyee by Name
3- Delete Employee
4- Show all Employe
5- Quit

Choose a number from 1 to 5: 5
Quit.......
```

TASK 4

```
# -*- coding: utf-8 -*-
"""
Created on Mon Jul 15 22:17:44 2024

@author: waleed
"""

mydict={
        "emploee1":
        {
       "name":"waleed emad",
       "salary":10000,
       "department":"electronics",
       "id":20011963
        },
        "emploee2":
        {
       "name":"mohamed",
       "salary":1200,
       "department":"emara",
       "id":1880000
        },
        "emploee3":
        {
       "name":"joooooooo",
       "salary":9500,
       "department":"power",
       "id":1201010
        }
       }
print(mydict)
while 1:
    print('choose the process')
    print('1-add emploee')
    print('2-search for emploee')
    print('3-remove emploee')
    print('4-show all emploee')
    x=int(input())
    if x==1:
        print("Enter the name")
        name=input()
        print("Enter the salary")
        salary=input()
        print("Enter the department")
        department=input()
        print("Enter the id")
        ID=input()
        print("Enter the key")
        key=input()
        mydict.update({key : {
        "name":name,
        "salary":salary,
```

```
        "department":department,
        "id":ID
         }})
        print(mydict)
    elif x==2:
        print("Enter the name :")
        input_key=input()
        for i in mydict:
            if mydict[i]["name"]==input_key:
                print(mydict[i])
                break
    elif x==3:
        print("enter the name :")
        input_key=input()
        for i in mydict:
            if mydict[i]["name"]==input_key:
                mydict.pop(i)
                print(mydict)
                break
    elif x==4:
           print( mydict)

           break
```

```
In [101]: runfile('E:/IC Design/Digital/ITI Summer camp 2024/scripting/Python/lab two/untitled3.py', wdir='E:/IC Design/Digital/ITI Summer camp 2024/scripting/Python/lab two')
{'emploee1': {'name': 'waleed emad', 'salary': 10000, 'department': 'electronics', 'id': 20011963}, 'emploee2': {'name': 'mohamed', 'salary': 1200, 'department': 'emara', 'id': 1880000}, 'emploee3': {'name':
'joooooo', 'salary': 9500, 'department': 'power', 'id': 1201010}}
choose the process
1-add emploee
2-search for emploee
3-remove emploee
4-show all emploee
1
Enter the name
M7MD
Enter the salary
12354
Enter the department
ENGINEERING
Enter the id
74125
Enter the key
EMP
{'emploee1': {'name': 'waleed emad', 'salary': 10000, 'department': 'electronics', 'id': 20011963}, 'emploee2': {'name': 'mohamed', 'salary': 1200, 'department': 'emara', 'id': 1880000}, 'emploee3': {'name':
'joooooo', 'salary': 9500, 'department': 'power', 'id': 1201010}, 'EMP': {'name': 'M7MD', 'salary': '12354', 'department': 'ENGINEERING', 'id': '74125'}}
choose the process
1-add emploee
2-search for emploee
3-remove emploee
4-show all emploee
2
Enter the name :
M7MD
{'name': 'M7MD', 'salary': '12354', 'department': 'ENGINEERING', 'id': '74125'}
choose the process
1-add emploee
2-search for emploee
3-remove emploee
4-show all emploee
3
enter the name :
M7MD
{'emploee1': {'name': 'waleed emad', 'salary': 10000, 'department': 'electronics', 'id': 20011963}, 'emploee2': {'name': 'mohamed', 'salary': 1200, 'department': 'emara', 'id': 1880000}, 'emploee3': {'name':
'joooooo', 'salary': 9500, 'department': 'power', 'id': 1201010}}
choose the process
1-add emploee
2-search for emploee
3-remove emploee
4-show all emploee
4
{'emploee1': {'name': 'waleed emad', 'salary': 10000, 'department': 'electronics', 'id': 20011963}, 'emploee2': {'name': 'mohamed', 'salary': 1200, 'department': 'emara', 'id': 1880000}, 'emploee3': {'name':
'joooooo', 'salary': 9500, 'department': 'power', 'id': 1201010}}

In [102]:
```