ASSIGNMENT NO. :3

PROGRAM:

```
def long_Word():
    str1=input("Enter String")
    words=str1.split()
    long_word=[]
    length=0
    for i in words:
        len_word=len(i)
        if(len_word>=length):
            length=len_word
            long_word.append(i)

    print("longest word:")
    for i in long_word:
        print(i,end="\t")
    print()

def char_Occur():
    str1=input("enter string")
    count=0
    flag=0
    ch=input("Enter char:")
    for i in range(len(str1)):
        if (ch==str1[i]):
            count+=1
            flag=1

    print("character occurence",count)

def str_Pallindrome():
    str1=input("Enter string")
    str2=""
    for i in range(0,len(str1)):
        str2=str1[i]+str2
    print("Reverse of string:",str2)
    if str2==str1:
        print(str1,"is palindrome....")
    else:
        print(str1,"is not palindrome....")

def subString_Appearance():
    str1=input("Enter String")
    words=str1.split()
    count=0
    for i in words:
        try:
            print(i,"appears in string at index ",count)
            while(str1[count]!=' '):
                count+=1
        except:
            print("Exception caught...")
```

```
        count+=1

def word_Occur():
    s=input("Enter string")
    words = s.split()
    u_words = []
    word_counts = []

    for word in words:
        flag = False

        for i in range(len(u_words)):

            if word == u_words[i]:
                word_counts[i] += 1
                flag = True
                break
        if not flag:
            u_words.append(word)
            word_counts.append(1)

    for i in range(len(u_words)):
        print(u_words[i],":",word_counts[i])


if __name__=="__main__":
    #str1=""
    print("1.Longest Word....")
    print("2.Display Occurance of Particular Character...")
    print("3.String is Palindrome...")
    print("4.First Appearance of subString ...")
    print("5.Occurance of each word in String ...")
    while(True):

        print("enter choice:")
        ch=int(input())
        if ch==1:
            long_Word()

        elif ch==2:
            char_Occur()
        elif ch==3:
            str_Pallindrome()
        elif ch==4:
            subString_Appearance()
        elif ch==5:
            word_Occur()
        else:
            print("wrong choice...")
            break
```

OUTPUT :

```
"c:/Users/mrina/OneDrive/Desktop/Coding/Python practical dsl/dsl3.py"
1.Longest Word....
2.Display Occurance of Particular Character...
3.String is Palindrome...
4.First Appearance of subString ...
5.Occurance of each word in String ...
enter choice:
1
Enter String Knowledge is power
longest word:
Knowledge
enter choice:
2
enter string Knowledge is power
Enter char:e
character occurence 3
enter choice:
3
Enter string Knowledge is power
Reverse of string: rewop si egdelwonK
 Knowledge is power is not palindrome....
enter choice:
4
Enter String Knowledge is power
Knowledge appears in string at index  0
is appears in string at index  1
power appears in string at index  11
enter choice:
5
Enter string Knowledge is power
Knowledge : 1
is : 1
power : 1
```

ASSIGNMENT NO. 4

PROGRAM:

```
def add_data(pb):
    name=input("Enter name..")
    number=int(input("Enter mobile number"))
    flag=False
    for i in range(len(pb)):
        if name < pb[i][0]:
            pb.insert(i, (name, number))
            flag = True
            break
    if not flag:
        pb.append((name,number))

    return pb

def display(pb):

    for c in pb:
        print(c)

def bin_search(pb):
    name=input("Enter name to search:")
    length=len(pb)
    l=0
    r=length-1
    flag=0
    while(l<=r):
        mid=(l+r)//2
        if(name==pb[mid][0]):
            print("name=",name,"and mob number is:",pb[mid][1])
            flag=1
            break
        elif name<pb[mid][0]:
            r=mid-1
            flag=0
        else:
            l=mid+1
            flag=0

    if flag==0:
        print(name,"is not in list....add the name")
        add_data(pb)
        display(pb)

def rec_BinSearch(pb,l,r,name):
    if l>r:
        print("name is not in the list")
        add_data(pb)
        display(pb)
        print("name is added in the list")
    else:
```

```
        mid=(l+r)//2
        if(name==pb[mid][0]):
            print("name=",name,"and mob number is:",pb[mid][1])
        elif name<pb[mid][0]:
            rec_BinSearch(pb,l,mid-1,name)
        else:
            rec_BinSearch(pb,mid+1,r,name)


if __name__=="__main__":
    pb=[]
    print("1.Insert name and mobile number....")
    print("2.display name and mobile number....")
    print("3.Search friend...")
    while(True):
        print("enter choice:")
        ch=int(input())

        if ch==1:
            pb=add_data(pb)

        elif ch==2:
            display(pb)
        elif ch==3:
            bin_search(pb)
        elif ch==4:
            name=input("Enter name to search:")
            rec_BinSearch(pb,0,len(pb)-1,name)
        else:
             print("wrong choice...")
             break
```

OUTPUT:

```
"c:/Users/mrina/OneDrive/Desktop/Coding/Python practical dsl/dsl4.py"
1.Insert name and mobile number....
2.display name and mobile number....
3.Search friend...
enter choice:
1
Enter name..Aarya
Enter mobile number 9874782733
enter choice:
1
Enter name..Bhavya
Enter mobile number 5783493497
enter choice:
1
Enter name..Priti
Enter mobile number 2384792387
enter choice:
1
Enter name..Shreya
Enter mobile number 4754375643
enter choice:
1
Enter name..Darshana
Enter mobile number 7346873334
enter choice:
1
Enter name..Gargi
Enter mobile number 8884834546
enter choice:
1
Enter name..Pritish
Enter mobile number 8478323776
enter choice:
1
Enter name..Abhishek
Enter mobile number 3974876745
enter choice:
1
Enter name..Shiv
Enter mobile number 7863456432
enter choice:
2
('Aarya', 9874782733)
('Abhishek', 3974876745)
('Bhavya', 5783493497)
('Darshana', 7346873334)
('Gargi', 8884834546)
('Priti', 2384792387)
('Pritish', 8478323776)
('Shiv', 7863456432)
('Shreya', 4754375643)
enter choice:
```

```
3
Enter name to search:Gargi
name= Gargi and mob number is: 8884834546
enter choice:
```

ASSIGNMENT NO. 5

PROGRAM:

```
def add_data(pb):
    name=input("Enter name..")
    number=int(input("Enter mobile number"))
    flag=False
    for i in range(len(pb)):
        if name < pb[i][0]:
            pb.insert(i, (name, number))
            flag = True
            break
    if not flag:
        pb.append((name,number))

    return pb

def display(pb):

    for c in pb:
        print(c)

def fib_search(pb):
    name=input("Enter name to search:")

    l = len(pb)
    elim = -1
    f2 = 0    #Two finbonacci numbers before fn
    f1 = 1    #One finonacci numbers before fn
    fn = f1+f2
    flag=0

    while fn<=l:
        f1, f2 = fn, f1
        fn = f1+f2

    while fn>1:

        curr = min(elim+f2,l-1)
        print(curr,"    ",f1,"  ",f2,"  ",fn)
        if pb[curr][0] == name:
            flag=1
            print(name,"is present at location",curr)
            print(pb[curr][0],"   ",pb[curr][1])
            break

        elif pb[curr][0] > name:
            fn = f2
            f1 = f1 - f2
            f2 = f2 - f1

        else:
            fn = f1
```

```
            f1 = f2
            f2 = fn - f1
            elim = curr


    if flag==0:
        print("name is not in the list...")



if __name__=="__main__":
    pb=[]
    print("1.Insert name and mobile number....")
    print("2.display name and mobile number....")
    print("3.Search friend...")
    while(True):
        print("enter choice:")
        ch=int(input())

        if ch==1:
            pb=add_data(pb)

        elif ch==2:
            display(pb)

        elif ch==3:
            fib_search(pb)

        else:
             print("wrong choice...")
             break
```

OUTPUT:

```
"c:/Users/mrina/OneDrive/Desktop/Coding/Python practical dsl/dsl4.py"
1.Insert name and mobile number....
2.display name and mobile number....
3.Search friend...
enter choice:
1
Enter name..Aarya
Enter mobile number 9874782733
enter choice:
1
Enter name..Bhavya
Enter mobile number 5783493497
enter choice:
1
Enter name..Priti
Enter mobile number 2384792387
enter choice:
1
Enter name..Shreya
Enter mobile number 4754375643
enter choice:
1
Enter name..Darshana
Enter mobile number 7346873334
enter choice:
1
Enter name..Gargi
Enter mobile number 8884834546
enter choice:
1
Enter name..Pritish
Enter mobile number 8478323776
enter choice:
1
Enter name..Abhishek
Enter mobile number 3974876745
enter choice:
1
Enter name..Shiv
Enter mobile number 7863456432
enter choice:
2
('Aarya', 9874782733)
('Abhishek', 3974876745)
('Bhavya', 5783493497)
('Darshana', 7346873334)
('Gargi', 8884834546)
('Priti', 2384792387)
('Pritish', 8478323776)
('Shiv', 7863456432)
('Shreya', 4754375643)
enter choice:
```

```
3
Enter name to search:Gargi
name= Gargi and mob number is: 8884834546
enter choice:
```