PROJECT FILE

❖ STRING:

1. Write a program that prompts for a phone number of 10 digits and two dashes, with dashes after the area code and the next three numbers. For example, 017-555-1212 is a legal input. Display if the phone number entered is valid or not and display if the phone number is valid or not (i.e., contains just the digits and dash at specific places).

CODE:

```
number=input("Enter Phone number: ")
if len(number)==12:
   if number[3]=='-' and number[7]=='-':
      if(number[:3]+number[4:7]+number[8:]).isdigit():
         print('Phone number is valid')
else:
   print('Phone number is not valid')
```

OUTPUT:

```
D:\PYTHON>C:/Users/Deepanshu/AppData/L
Enter Phone number: 017-555-1212
Phone number is valid
```

2. Write a program that reads a string and then prints a string that capitalizes every other letter in the sting e.g., passion becomes pAsSiOn.

CODE:

```
string=input("Enter a string: ")
length=len(string)
print("Original string: ",string)
string2=" "
for a in range(0,length,2):
   string2+=string[a]
   if a<(length-1):
      string2+= string[a+1].upper()
print("Alternatively capitalized string: ",string2)
```

OUTPUT:

```
D:\PYTHON>C:/Users/Deepanshu/AppData/Local/Pr
Enter a string: passion
Original string:  passion
Alternatively capitalized string:   pAsSiOn
```

❖ LIST:

1. Write a program that inputs a list of numbers and shifts all the zeroes to right and all non-zero numbers to left of a list.

CODE:

```
lst=eval(input("Enter list: "))
length=len(lst)
end=length-1
print("Original list: ",lst)
i=0
while(i<=end):
   ele=lst[i]
   if ele==0:
      for j in range(i,end):
         lst[j]=lst[j+1]
      else:
         lst[end]=0
         end=-1
   if lst[i]!=0:
      i+=1
print("Zero shifted: ",lst)
```

OUTPUT:

```
D:\PYTHON>C:/Users/Deepanshu/AppData/Local/Programs/P
Enter list: [1,3,4,8,0,43,56,34,3]
Original list:  [1, 3, 4, 8, 0, 43, 56, 34, 3]
Zero shifted:  [1, 3, 4, 8, 43, 56, 34, 3, 0]
```

2. Ask the user to enter a list of strings. Create a new list that consist of those strings with their first characters removed.

CODE:

```
l1 = eval(input("Enter a list of strings: "))
l2 = []
for i in range(len(l1)):
    l2.append(l1[i][1:])
print("List after removing first characters:")
print(l2)
```

OUTPUT:

```
D:\PYTHON>C:/Users/Deepanshu/AppData/Local/Programs/Python/Python3
Enter a list of strings: ["red", "green", "blue", "pink", "cyan"]
List after removing first characters:
['ed', 'reen', 'lue', 'ink', 'yan']
```

❖ TUPLE:

1. Write a python function secondlargest(T) which takes as input a tuple T and returns the second largest element in the tuple. You can use any of the standard Python functions to obtain your results.

CODE:

```
T=(23,45,34,66,77,67,70)
maxvalue=max(T)
length=len(T)
secmax=0
for a in range(length):
   if secmax<T[a]<maxvalue:
      secmax=T[a]
print("Second largest value is: ",secmax)
```

OUTPUT:

```
D:\PYTHON>C:/Users/Deepanshu/AppData/
Second largest value is:  70
```

2. Write a function getPowers(x) that returns a tuple containing x, x^2, x^3 and x^4. Read five integers from the user, and for each integer read, print that value raised to the power 2, 3 and 4.

CODE:

```
for n in range(5):
   x=int(input("Enter number:" ))
   T=(x, x**2, x**3, x**4)
   print("Numbers raised to powers 1,2,3,4 :=", T)
```

OUTPUT:

```
D:\PYTHON>C:/Users/Deepanshu/AppData/Local/Program
Enter number:2
Numbers raised to powers 1,2,3,4 := (2, 4, 8, 16)
```

❖ DICTIONARY:

1. Write a program to create a dictionary containing names of competition winner students as keys and number of their wins as values.

CODE:

```
n=int(input("How many students? "))
compwinners={}
for a in range(n):
   key=input("Name of student: ")
   value=int(input("Number of competitions won: "))
   compwinners[key]=value
print("The dictionary now is: ", compwinners)
```

OUTPUT:

```
D:\PYTHON>C:/Users/Deepanshu/AppData/Local/Programs/Python/Python310/python.exe "d:/PY
How many students? 5
Name of student: Rohan
Number of competitions won: 5
Name of student: Zeba
Number of competitions won: 3
Name of student: Niahr
Number of competitions won: 3
Name of student: Roshan
Number of competitions won: 1
Name of student: James
Number of competitions won: 5
The dictionary now is:  {'Rohan': 5, 'Zeba': 3, 'Niahr': 3, 'Roshan': 1, 'James': 5}
```

2. Write a program to enter names of employees and their salaries as input and store them in a dictionary.

CODE:

```
dic = { }
while True :
      name = input("Enter employee name :-")
      sl = int(input("Enter employee salary :-"))
      dic[ name] = sl
      user = input("Do you want to quit then enter yes :-")
      if user == "yes" :
            break
print(dic)
```

OUTPUT:

```
D:\PYTHON>C:/Users/Deepanshu/AppData/Local/
Enter employee name :-Rohan
Enter employee salary :-1000
Do you want to quit then enter yes :-no
Enter employee name :-Roshan
Enter employee salary :-2000
Do you want to quit then enter yes :-yes
{'Rohan': 1000, 'Roshan': 2000}
```