Capsule 2

Question 1 Write a program that prompts the user to input a year, checks whether it's a leap year or not, and then prints the result.

```
year=input("enter the year: ")
if len(year) != 4:
  print("input not valid")
try:
  if int(year) % 4 ==0:
    print("leap year")
  else :
    print("not a leap year")
except:
  print("input not valid")

```

```
enter the year: 1234
not a leap year
```

Question 2 Write a Python program that prompts the user to input a word. The program should then determine and output the count of vowels (a, e, i, o, u) in the provided word. Additionally, consider that the word can be in either uppercase or lowercase.

```
word=input("enter a word: ")
s=0
for p in word.lower() :
  if p in ["a","e","i","o","u"]:
      s+=1
print(s)
```

```
enter a word: CASUAL
3
```

Question 3 Write a Python program that allows the user to input a list of 6 names. After receiving the list, the program should print only the names that start with the letter 'a', regardless of whether the letter is uppercase or lowercase.

```
#approch 1
name_list=list(map(str,input().split(",")))
for i in name_list:
  if i[0].lower()=='a':
    print(i)
```

```
priya,aman,niyati,azma,allu,piku
aman
azma
allu
```

```
#approch 2
name_list=[]
for i in range(6):
  name=input("enter a name: ")
  name_list.append(name)
print('names that are starting with a are as below')
for i in name_list:
  if i[0].lower() =='a':
    print(i)
```

```
enter a name: niyati
enter a name: piku
enter a name: amit
enter a name: azma
enter a name: alok
enter a name: priya
names that are starting with a are as below
amit
azma
alok
```

Question 4 Write a Python program that takes a list of 10 integers as input. Your program should iterate through the list and print the following: For each even number encountered, print the number squared. For each odd number encountered, print the number cubed.

```
number_list=[]
for i in range(10):
  number=int(input("enter a number: "))
  number_list.append(number)
for i in number_list:
  if i%2==0:
    print(f"number {i} is even and square of it is {i**2}")
  else:
    print(f"number {i} is odd and cube of it is {i**3}")
```

```
enter a number: 10
enter a number: 13
enter a number: 56
enter a number: 34
enter a number: 2
enter a number: 8
enter a number: 9
enter a number: 22
enter a number: 67
enter a number: 34
number 10 is even and square of it is 100
number 13 is odd and cube of it is 2197
number 56 is even and square of it is 3136
number 34 is even and square of it is 1156
number 2 is even and square of it is 4
number 8 is even and square of it is 64
number 9 is odd and cube of it is 729
number 22 is even and square of it is 484
number 67 is odd and cube of it is 300763
number 34 is even and square of it is 1156
```

Question 5 Imagine you're ordering flowers from a local delivery service. They offer a selection of beautiful flowers, including roses. Each rose is priced at Rs. 10. Along with your choice of roses, you'll need to provide the count of roses you wish to order and the delivery distance. The delivery charges are as follows: Rs. 25 for distances within 5 kilometers, Rs. 50 for distances between 5 and 10 kilometers, and Rs. 75 for distances greater than 10 kilometers. Write a Python program that prompts the user to enter the count of roses and the delivery distance, then calculates and displays the total price to pay, including both the cost of roses and the delivery charge.

```
print("Welcome to the flower shop")
rose_price=10
no_of_roses=int(input("please enter the number of roses: "))
distance=int(input("please enter the distance: "))
price=0
if distance<5:
  price=rose_price*no_of_roses +25
elif 5<=distance<10:
  price=rose_price*no_of_roses +50
else:
  price=rose_price*no_of_roses +75
print(f"for {no_of_roses} roses and {distance} km distance you have to pay {price}")
```

```
Welcome to the flower shop
please enter the number of roses: 5
please enter the distance: 7
for 5 roses and 7 km distance you have to pay 100
```