Q.1 Ask user to enter the wordand create the triangle for given word. For Example if input is "Cristmas" then output should be in the given formatC CR CRI CRIT CRITM CRITMA CRITMAS

```python
word = input("Enter a word:")
pattern=''

for i in range(len(word)):
    pattern=(pattern+word[i]).upper()
    print(pattern)
```

```
Enter a word:Cristams
C
CR
CRI
CRIS
CRIST
CRISTA
CRISTAM
CRISTAMS
```

2.Ask user to Enter the mobile number and create a function to validate mobile number

```python
def MobileValidation():
 Number=input("Enter the Mobile No: ")
 if Number.isdigit() and len(Number)==10:
  print("Valid Mobile Number")
 else:
  print("Invalid Mobile Number")

MobileValidation()
```

```
Enter the Mobile No: 1234567890
Valid Mobile Number
```

3. d1={'a' : 200, 'b' : 300, 'c' : 10} create a function to accept the above dictionary and return sum of total values

```python
def Sum_Of_Dict(d1):
    total = sum(d1.values())
    return total

d1 = {'a': 200, 'b': 300, 'c': 10}
result = Sum_Of_Dict(d1)
print("The sum of total:", result)
```

```
The sum of total: 510
```

Q.4 Create the function to calculate the maturity amount when deposit amount and interest rate is given. Interest rate can not be more than 7% and in negative

```python
def cal_amount(p, r, t):
    if 0 <= r <= 7:
        return p * (1 + r/100) ** t
    else:
        return "Interest rate should be between 0 and 7"


p = float(input("Enter deposit amount: "))
r = float(input("Enter interest rate in %: "))
t = int(input("Enter time in Years: "))

result = cal_amount(p,r,t)

print(f"Maturity amount after {t} years:", result)
```

```
Enter deposit amount: 1000
Enter interest rate in %: 2
Enter time in Years: 2
Maturity amount after 2 years: 1040.4
```

Q.5 Create a function to calculate largest and smallest value from the list

```python
def Min_Max_No(numbers):
    smallest = numbers[0]
    largest = numbers[0]

    for num in numbers:
        if num < smallest:
            smallest = num
        if num > largest:
            largest = num
    return smallest, largest
nums = [10, 45, 2, 89, 23]
small, large = Min_Max_No(nums)
print("Smallest value:", small)
print("Largest value:", large)
```

```
Smallest value: 2
Largest value: 89
```

Q.6 d1= {1:{'name': "nilesh", mobile: '789890678'}, 2: {'name': "Jasmin", 'mobile': '6567788789'}
create a function to acccept information from user like either id or nameif user is entering name then roll number and mobile should be displayed. if id is given then name and mobile number should be displayed

```python
d1 = {1: {'name': "nilesh", 'mobile': '789890678'},
      2: {'name': "Jasmin", 'mobile': '6567788789'}}

def search_info(data):
    x = input("Enter ID or Name: ")
    if x.isdigit() and int(x) in data:
        print("Name:", data[int(x)]['name'])
        print("Mobile:", data[int(x)]['mobile'])
    else:
        for k, v in data.items():
            if v['name'].lower() == x.lower():
                print("ID:", k)
                print("Mobile:", v['mobile'])
                return
        print("Not found")

search_info(d1)
```

```
Enter ID or Name: 1
Name: nilesh
Mobile: 789890678
```

Q.7 d1 = {'n':20, 'm':30, 'o':30}d2= {'n' : 47, 'x':20, "y":34} d1 and d2 are two dictionaries. Merge two dictionaries if keys are different. for same keys add valuesoutput = {'n': 67, 'm':30, 'o':30, 'x':20, 'y':34}

```python
d1 = {'n':20, 'm':30, 'o':30}
d2 = {'n' : 47, 'x':20, "y":34}

output = d1.copy()
for key, value in d2.items():
    if key in output:
        output[key] += value
    else:
        output[key] = value
print(output)
```

```
{'n': 67, 'm': 30, 'o': 30, 'x': 20, 'y': 34}
```