1. Write a program to accept percentage from the user and display the grade according to the following criteria:

Marks	Grade
>90	A
>80 and <=90	B
>=60 and <=80	C
below 60	D

Ans:
percent = int(input("Enter the % of marks obtained: "))
if percent >90:
   print('Your Grade is A')
elif percent > 80 and percent <=90:
   print('Your Grade is B')
elif percent >=60 and percent <=80:
   print('Your Grade is C')
else:
   print('Your Grade is D')

2. Write a program to accept the cost price of a bike and display the road tax to be paid according to the following criteria:

Tax	Cost Price(in Rs)
15%	>100000
10%	>50000 and <= 100000
5%	< = 50000

Ans:
cost = int(input("Enter the cost price of bike: "))
if cost >100000:
   print('Tax is 15%')
   print('Your Road Tax amount is: ',cost*(15/100))
elif cost >50000 and cost <=100000:
   print('Tax is 10%')
   print('Your Road Tax amount is: ',cost*(10/100))
else:
   print('Tax is 5%')
   print('Your Road Tax amount is: ',cost*(5/100))

3. Accept any city from the user and display monuments of that city.

City	Monument
Delhi	Red Fort
Agra	Taj Mahal
Jaipur	Jal Mahal

Ans:
```
print("List of City \n 1. Delhi \n 2. Agra \n 3. Jaipur \n")
city = input("Enter a city from List: ")
if city =='Delhi' or city =='delhi':
    print('Monument of the city: Red Fort')
elif city =='Agra' or city =='agra':
    print('Monument of the city: Taj Mahal')
elif city =='Jaipur' or city =='jaipur':
    print('Monument of the city: Jal Mahal')
else:
    print("Invalid Input!!!")
```

4. Check how many times a given number can be divided by 3 before it is less than or equal to 10.
Ans:
```
num = int(input("Enter a num to check the no of divisibility by 3: "))
temp = num
count = 0
while temp >10:
    if temp % 3 == 0:
        temp = temp/3
        count = count + 1
    else:
        break
print("Count of", num, "divided by 3:", count)
```

5. Why and when to use while loop in python give a detailed description with example.
Ans:
A while Loop is used to repeat a specific block of code to unknown number of times, until the give condition is satisfied.
Example:
```
num = int(input("Enter a num to check the no of divisibility by 3: "))
temp = num
count = 0
while temp >10:
    if temp % 3 == 0:
        temp = temp/3
```

```
        count = count + 1
    else:
        break
print("Count of", num, "divided by 3:", count)
```

6. Use nested while loop to print 3 different patterns.
   Ans:
   (A)
   ```
   row = 5
   i = 1
   while i <= row :
       j = 1
       while j <= i:
           print("*", end=" ")
           j = j + 1
       print()
       i = i + 1
   ```

   (B)
   ```
   row = 5
   i = 1
   while i <= row:
       j = row
       while j >= i:
           print("*", end=" ")
           j = j - 1
       print()
       i = i + 1
   ```

   (C)
   ```
   row = 5
   i = 1
   temp = round(row/2)
   while i <= temp :
       j = 1
       while j <= i:
           print("*", end=" ")
           j = j + 1
       print()
       i = i + 1
   while i <= row:
       j = row
       while j >= i:
           print("*", end=" ")
   ```

```
        j = j - 1
    print()
    i = i + 1
```

7. Reverse a while loop to display numbers from 10 to 1.
   Ans:
```
i = 10
while i>=1:
    print(i)
    i = i-1
```

8. Reverse a while loop to display numbers from 10 to 1.
   Ans:
```
i = 10
while i>=1:
    print(i)
    i = i-1
```