

1. Write a program to accept percentage from user and display the grade accordingly

```
percentage=int(input("Enter your percentage: "))
if percentage>90:
    print("Your grade | A")
elif percentage>80 and percentage<=90:
    print("Your grade | B")
elif percentage>=60 and percentage<=80:
    print("Your grade | C")
elif percentage<60:
    print("Your grade | D")
else:
    print("Invalid Input!")
```

Enter your percentage: 78
Your grade | C

2. Write a program to accept the cost price of a bike and display the road tax to be paid accordingly

```
cost=int(input("Enter cost price: "))
if cost>100000:
    print(f"Your tax is: {cost*0.85}")
elif cost>50000 and cost<=100000:
    print(f"Your tax is: {cost*0.90}")
elif cost<=50000:
    print(f"Your tax is: {cost*0.95}")
else:
    print("Invalid Input!")
```

Enter cost price: 120000
Your tax is: 102000.0

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

```
city=input("Enter name of the city: ")
if city=="Delhi" or "delhi":
    print("Monument of the city is Red Fort")
elif city=="Agra" or "agra":
    print("Monument of the city is Taj Mahal")
elif city=="Jaipur" or "jaipur":
    print("Monument of the city is Jal Mahal")
else:
    print("Invalid Input")
```

Enter name of the city: Delhi
Monument of the city is Red Fort

4. Check how many times a given number can be divided by 3 before it is less than or equal to 10.

```
num=int(input("Enter Number: "))
count=0
while num>=10:
    num=num/3
    count+=1
print(count)
```

```
Enter Number: 65
2
```

5. Why and When to Use while Loop in Python give a detailed description with example

Ans) While loop is used to iterate over a block of code until some given condition is True.

It is usually when we don't know the number of iterations.

6. Use nested while loop to print 3 different pattern.

Ans) 1st pattern

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

```
*
**
***
****
*****
```

2nd pattern

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

```
*****
****
***
**
*
```

3rd pattern

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

```
*****
*****
*****
*****
*****
```

6.Reverse a while loop to display numbers from 10 to 1

Ans)

```
i=10
while i>=1:
    print(i)
    i-=1
```

```
10
9
8
7
6
5
4
3
2
1
```

7.Reverse a while loop to display numbers from 1 to 10

Ans)

```
i=1  
while i<=10:  
    print(i)  
    i+=1
```

```
1  
2  
3  
4  
5  
6  
7  
8  
9  
10
```