

In [15]: *#1. Write a program to accept percentage from the user and display the grade according to the percentage.*

```
percentage = float(input("Enter the percentage: "))

if percentage > 90:
    grade = "A"
elif percentage > 80:
    grade = "B"
elif percentage >= 60:
    grade = "C"
else:
    grade = "D"

print("Your grade is:", grade)
```

Your grade is: D

In [18]: *#2. Write a program to accept the cost price of a bike and display the road tax to be paid according to the cost price.*

```
cost_price = float(input("Enter the cost price of the bike (in Rs): "))

if cost_price > 100000:
    tax = cost_price * 0.15
elif cost_price > 50000:
    tax = cost_price * 0.1
else:
    tax = cost_price * 0.05

print("The road tax to be paid is: Rs", tax)
```

The road tax to be paid is: Rs 250.0

In [22]: *#3. Accept any city from the user and display monuments of that city.*

```
city = input("Enter a city: ")

if city.lower() == "delhi":
    print("Monument in Delhi: Red Fort")
elif city.lower() == "agra":
    print("Monument in Agra: Taj Mahal")
elif city.lower() == "jaipur":
    print("Monument in Jaipur: Jal Mahal")
else:
    print("Sorry, we don't have information about monuments in that city.")
```

Monument in Delhi: Red Fort

In [23]: *#4. Check how many times a given number can be divided by 3 before it is less than or equal to 10.*

```
number = int(input("Enter a number: "))

count = 0
while number > 10:
    number /= 3
    count += 1

print("The number can be divided by 3", count, "times before it is less than or equal to 10")
```

The number can be divided by 3 0 times before it is less than or equal to 10.

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

in Python, a while loop is used to repeatedly execute a block of code while a certain condition is true. The loop will continue to execute until the condition becomes false.

In [24]: *#5. Why and When to Use while Loop in Python give a detailed description with example*
#example
 count = 0
 while count < 5:
 print("The count is:", count)
 count += 1

The count is: 0
 The count is: 1
 The count is: 2
 The count is: 3
 The count is: 4

In [25]: *#6. Use nested while loop to print 3 different pattern.*

#pattern no 1
 i = 1
 while i <= 5:
 j = 1
 while j <= i:
 print('*', end='')
 j += 1
 print()
 i += 1

*
 **

In [26]: *#6. Use nested while loop to print 3 different pattern.*

#pattern no 2
 i = 1
 while i <= 5:
 j = 1
 while j <= i:
 print(i, end='')
 j += 1
 print()
 i += 1

1
 22
 333
 4444
 55555

In [27]: *#6. Use nested while loop to print 3 different pattern.*

#pattern no 3
 i = 5
 while i >= 1:
 j = i

```
while j >= 1:
    print(j, end='')
    j -= 1
print()
i -= 1
```

54321
4321
321
21
1

In [14]: *#7. Reverse a while loop to display numbers from 10 to 1*

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

10
9
8
7
6
5
4
3
2
1

In [28]: *#8. Reverse a while loop to display numbers from 10 to 1*

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

10
9
8
7
6
5
4
3
2
1

In []: