

Python assignment:

date:30-jan-2023.

1.write a python program to accept percentage from user display the grade according to the following criteria

marks	garde
>90	A
>80and <=90	B
>=60and <=80	C
bellow 60	D

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

```
if percentage > 90:  
    grde = "A"  
elif percentage > 80 and percentage <= 90:  
    grade = "B"  
elif percentage >=60 and percentage <=80:  
    garde = "C"  
else:  
    garde = "D"
```

```
print("grade:" +grade)
```

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

```
cost_price = float(input("enter the cost price of a bike"))
```

```
if cost_price > 100000:
    road_tax = cost_price * 0.15
elif cost_price > 50000:
    road_tax = cost_price * 0.1
else:
    road_tax = cost_price * 0.05
print("the road tax to be paid is rs. {:.2f}".format(road_tax))
```

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

city	monuments
------	-----------

Delhi	Red fort
Agra	Taj mahal
Jaipur	jal mahal

```
city = str(input("enter the name of the city"))

if city == "delhi":
    monument = "Red_fort"
elif city == "Agra":
    monument = "Taj_mahal"
else:
    city == "jaipur"
    monument = "Jal_mahal"

print("Monument for " + city + " is " + monument)
```

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 = number // 3
    count += 1

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

5. why and when to use while loop in python give a detailed discription with example

A while loop in Python is used to execute a block of code repeatedly as long as a specified condition is true. The condition is checked at the beginning of each iteration, and the loop continues until the condition is no longer true

```
#Example for while
number = 1
```

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

When you need to repeat a block of code until a specific condition is met.

When you don't know the exact number of iterations in advance, and need to keep looping until a condition is satisfied.

When you're working with input from a user or an external source, and need to keep prompting for input until a certain condition is met

6.use nested while loop to print 3 different pattern

```
#pattern 1
```

```
row = 1
```

```
while row <= 5:
    column = 1
    while column <= row:
        print('*', end=" ")
        column += 1
    print()
    row += 1
```

```
#pattern 2
```

```
row = 5
```

```
while row >= 1:
    column = 1
    while column <= row:
        print('*', end=" ")
        column += 1
    print()
    row -= 1
```

```
#pattern 3
```

```
row = 1
```

```
while row <= 5:
    space = 5 - row
    column = 1
    while space > 0:
        print(' ', end="")
        space -= 1
    while column <= row:
        print('*', end="")
        column += 1
    print()
    row += 1
```

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

```
number = 10
```

```
while number >= 1:
    print(number)
    number -= 1
```