

30th Jan Assignment

1.1 Assignment 2

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

1.1.2 Marks Grade

1. >90 -> A
2. >80 and <=90 -> B
3. >60 and <=80 -> C
4. below 60 -> D

```
[2]: percentage = int(input("Enter the percentage :"))
    if percentage>90:
        print("Your grade is 'A'")
    elif percentage>80 and percentage<=90:
        print("Your grade is 'B'")
    elif percentage>60 and percentage<=80:
        print("Your grade is 'C'")
    else:
        print("Your grade is 'D'")
```

Enter the percentage : 95

Your grade is 'A'

1.1.3 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:

1.1.4 Tax Cost Price(in Rs)

1. 15% - >100000
2. 10% - >50000 and <=100000
3. 5% - <=50000

```
1
[6]: cost_price = int(input("Enter the price of the bike"))
    if cost_price > 100000:
        print("Road tax to be paid is {}".format(cost_price * 0.15))
    elif cost_price>50000 and cost_price <= 100000:
        print("Road tax to be paid is {}".format(cost_price * 0.10))
    else:
        print("Road tax to be paid is {}".format(cost_price * 0.05))
```

Enter the price of the bike 120000

Road tax to be paid is 18000.0

1.1.5 3. Accept any city from the user and display monuments of that city. 1.1.6

City Monument

1. Delhi - Red Fort
2. Agra - Taj Mahal
3. Jaipur - Jal Mahal

```
[10]: city=input("Enter the city")
      if city == 'Delhi':
          print("The monument in Delhi is 'Red Fort'")
      elif city == 'Agra':
          print("The monument in Agra is 'Taj Mahal'")
      elif city == 'Jaipur':
          print("The monument in Jaipur is 'Jal Mahal'")
      else:
          print("Please enter a valid city")
```

Enter the city Jaipur

The monument in Jaipur is 'Jal Mahal'

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

```
[1]: number = int(input("Enter the number : "))
      count = 0
      while number>10:
          number /= 3
          count += 1
      print(f"Number of times divided by 3 is {count} times")
```

Enter the number : 99

Number of times divided by 3 is 3 times

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

1.1.9 -> A while statement is a loop. Basically, it continues to execute the code in the while statement for however long the expression is true.

Below code is example for while loop

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

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

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

```
[5]: # Pattern 1
    n = int(input("Enter the number"))
    for i in range(1,n+1):
        for j in range(1,i+1):
            print("*",end="")
        print("\n")
```

Enter the number 5

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

```
[6]: # Pattern 2
    n = int(input("Enter the number"))
    num = 65
    for i in range(1,n+1):
        for j in range(1,i+1):
            ch = chr(num)
            print(ch,end="")
            num += 1
```

```
print("\n")
```

Enter the number 5

A
BC
DEF
GHIJ
KLMNO

[7]: # Pattern 3

```
n = int(input("Enter the number"))
num = 65
for i in range(1,n+1):
    for j in range(1,i+1):
        ch = chr(num)
        print(ch,end="")
    num += 1
    print("\r")
```

Enter the number 5

A
BB
CCC
DDDD
EEEE

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

[9]: n = 10

```
while n > 0:
    print(n)
    n -= 1
```

10
9
8
7
6
5
4
3
2
1

1.1.12 7th & 8th question are same

