PYTHON Assignment Questions

Marks: 20

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

Answer:

```
percent= float(input("Enter the percentage of user"))
st= "User hold Grade: "
if percent > 90:
    print(st + "A")
elif percent > 80 and percent <=90 :
    print(st + "B")
elif percent > 60 and percent <=80 :
    print(st + "C")
elif percent < 60:
    print(st + "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:

Answer:

```
cost= float(input("Enter the Cost Price of bike: Rs."))
rtax= "Road Tax to be paid: "
if cost > 100000:
    print(st + "15%")
elif cost > 50000 and cost <=100000 :
    print(st + "10%")
```

```
elif percent <= 50000 :
    print(st + "5%")
```

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

Answer:

```
city= input("Enter the City name: ")
mt= "Monument in this city is: "
if city.upper() == "DELHI" :
    print(mt+ "Red Fort")
elif city.upper() == "AGRA" :
    print(mt+ "Taj Mahal")
elif city.upper() == "JAIPUR" :
    print(mt+ "Jal Mahal")
else : print("Please enter city either Delhi,Agra or Jaipur")
```

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

Answer:

```
num1= int(input("Enter your integer number: "))
num=num1
count = 0
while num > 10 :
    if num%3==0:
        count+=1
    num= num-1
print("{} number is divisible {} times".format(num1,count))
```

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

Answer:

While loop in Python is used to run a block code until a condition is met. So, While loop will evaluate the condition first.

If the condition holds True, the code inside the While loop will run and thereafter control again comes back to While loop condition to validate.
When the condition becomes False, control will go to the next statements after the While loop.
It will be used when the user wants to run the block of code based on any condition instead for a given number of iterations, then While Loop can be used to run that block of code.
For eg: We can use While loop in a trading account. Where user want to buy shares at a price lower than what is reflected in sensex. And users do not know when the share price comes to that level at which he want to buy.
In this case, the user can give the condition of Price greater than “at what the user wants to buy” with the While loop. And run a block of code in While Loop to check the price. So this Loop will run until the price of share is greater than expected price.
As soon as the Price of share becomes lower or equal to the expected price in the block of code. So again when, While loop will run and check the condition and after finding the While loop condition as False, control will move to the next statements followed after While loop.

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

Answer: In all below 3 shapes code. User

Shape 1:

```
n=int(input("Enter the number of lines for which shape should print: "))
i=0
while i<n:
    l=0
    k=0
    while k>=0 and k<n-i:
        print(" ",end="")
        k+=1
    while l>=0 and l<(2*i+1):
        print("X",end="")
        l+=1
    print("\r")
    i+=1
```

Shape 2:

```
n=int(input("Enter the number of lines for which shape should print: "))
while n>0:
    i=0
    while i<n:
        print("x",end="")
        i+=1
    print("\r")
    n=n-1
```

Shape3:

```
n=int(input("Enter the number of lines for which shape should print: "))
i=n-1
while i>=0:
    k=n-i-1
    while k>0:
        print(" ",end="")
        k-=1
    print(".", end="")
    l=2*i-1
    while l>0:
        print(" ",end="")
        l-=1
    if i>0:
        print(".", end="")
    i-=1
    print("\r")
```

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

Answer:

```
i=10
while i>=0:
    print(i)
    i-=1
```

8. Reverse a while loop to display numbers from 10 to **1**

Answer:

```
i=10
while i>=0:
    print(i)
    i-=1
```

Note:- Please create a Google Document and write your answers and upload the shareable link of the Google Document **with** view access during the submission of the assignment.