Q1. Accept the following from the user and calculate the percentage of class attended:

a.   Total number of working days

b.   Total number of days for absent

   After calculating percentage show that, If the percentage is less than 75, than student will not be able to sit in exam.

Ans.

```
nd = int(input("Enter total number of working days"))
na = int(input("Enter number of days  absent"))
per=(nd-na)/nd*100
print("Your attendance is ",per)
if per <75 :
    print("You are not eligible for exams")
else:
    print("You are eligible for writing exam")
```

Q2. Accept the percentage from the user and display the grade according to the following criteria:

- Below 25 —- D
- 25 to 45 —- C
- 45 to 50 —- B
- 50 to 60 — B+
- 60 to 80 — A
- Above 80 -- A+

Ans.

```
per = int(input("Enter percentage"))
if per> 80:
    print("Grade is A+")
elif per >60 and per <=80:
    print("Grade is A")
elif per > 50 and per <=60:
    print("Grade is B+")
elif per > 45 and per <=50:
    print("Grade is B")
elif per > 25 and per <=45:
    print("Grade is C")
elif per <25:
    print("Grade is D")
```

Q3. A company decided to give bonus to employee according to following criteria:

Time period of Service	Bonus
More than 10 years	10%
>=6 and <=10	8%
Less than 6 years	5%

Ask user for their salary and years of service and print the net bonus amount.

Ans.

```
ser=int(input("Enter the time period of service"))
sal =int(input("Enter your salary"))
if ser > 10:
    b=10/100*sal
if ser >=6 and ser <=10:
    b = 8/100*sal
if ser < 6:
    b = 5/100*sal
print("Bonus is ", b)
```

Q4. Accept the marked price from the user and calculate the Net amount as(Marked Price – Discount) to pay according to following criteria:

Marked Price	Discount
>10000	20%
>7000 and <=10000	15%
<=7000	10%

Ans.

```
na=0
d=0
mp=int(input("Enter marked price"))
if mp > 10000:
    d = 20/100*mp
if mp > 7000 and mp <= 10000:
    d = 15/100*mp
if mp <= 7000:
    d = 10/100*mp
na = mp-d
print("Net amount to pay ", na)
```

Q5. Write a program to accept percentage and display the Category according to the following criteria :

Percentage	Category
< 40	Failed
>=40 & <55	Fair
>=55 & <65	Good
>=65	Excellent

Ans.

```
pr = int(input("Enter the percentage"))
if pr < 40:
    print("Your Category is:  Failed")
elif pr >= 40 and pr < 55:
    print("Your Category is:  Fair")
elif pr >=55 and pr < 65:
    print("Your Category is: Good")
elif pr >= 65 and pr<=100:
    print("Your Category is: Excellent")
elif pr >100:
    print("Please enter correct percentage")
```

Q6. Accept three sides of a triangle and check whether it is an equilateral, isosceles or scalene triangle.

Note :

An equilateral triangle is a triangle in which all three sides are equal.

A scalene triangle is a triangle that has three unequal sides.

An isosceles triangle is a triangle with (at least) two equal sides.

Ans.

```
s1=int(input("Enter first side of triangle"))
s2=int(input("Enter second side of triangle"))
s3=int(input("Enter third side of triangle"))
if s1==s2 and s2 == s3:
    print("Equilateral triangle")
if (s1==s2 and s2!=s3) or (s2==s3 and s2!=s1) or (s1==s3 and s1!=s2):
    print("Isosceles Triangle")
if s1!=s2 and s1!=s3 and s2!=s3:
    print("Scalene Triangle")
```

Q7. Write a program to accept two numbers and mathematical operators and perform operation accordingly.

Like:

Enter First Number: 7

Enter Second Number : 9

Enter operator : +

Your Answer is : 16

```
Ans
num1=int(input("Enter first number"))

num2=int(input("Enter second number"))

op=input("Enter mathematical operator")

if op=='+':

    print("Result is ", num1+num2)

if op=='-':

    print("Result is ", num1-num2)

if op=='*':

    print("Result is ", num1*num2)

if op=='/':

    print("Result is ", num1/num2)

if op=='%':

    print("Result is ", num1%num2)

if op=='**':

    print("Result is ", num1**num2)

if op=='//':

    print("Result is ", num1//num2)
```

Q8. Accept the age, sex ('M', 'F'), number of days and display the wages accordingly

Age	Sex	Wage/day
>=18 and <30	M	700
	F	750
>=30 and <=40	M	800
	F	850

If age does not fall in any range then display the following message: "Enter appropriate age"

Ans.

```
age=int(input("Enter your age"))
sex=input("Enter sex(M/F) ")
nd = int(input("Enter number of days"))
if age >=18 and age < 30 and sex.upper( ) == 'M':
    amt = nd*700
    print("Total wages is : ", amt)
elif age >=18 and age < 30 and sex.upper( ) == 'F':
    amt = nd*750
    print("Total wages is : ", amt)
elif age >=30 and age <= 40 and sex.upper( ) == 'M':
    amt = nd * 800
    print("Total wages is : ", amt)
elif age >=30 and age <= 40 and sex.upper( ) == 'F':
    amt = nd * 850
    print("Total wages is : ", amt)
else:
    print("Enter appropriate age")
```

Q1. Accept three numbers from the user and display the second largest number.

Ans.

```
num1=int(input("Enter first number"))

num2=int(input("Enter second number"))

num3=int(input("Enter third number"))

if (num1 > num2 and num1 < num3) or (num1 < num2 and num1 > num3):

    print("Middle number is " , num1)

if (num2 > num1 and num2 < num3) or (num2 < num1 and num2 > num3):

    print("Middle number is" , num2)

if (num3 > num2 and num3 < num1) or (num3 < num2 and num3 > num1):

    print("Middle number is" , num3)
```

Q2. Accept three sides of triangle and check whether the triangle is possible or not.

(triangle is possible only when sum of any two sides is greater than 3rd side)

Ans.

```
s1=int(input("Enter First side of triangle"))

s2=int(input("Enter Second side of triangle"))

s3=int(input("Enter Third side of triangle"))

if s1+s2 > s3 and s2 + s3 > s1 and s1 + s3 > s2:

    print("Triangle is possible")

else:

    print("Triangle not possible")
```

Q3. Consider the following code

```python
if i<j:
    if j < k:
        i = j
    else:
        j = k
else:
    if j>k:
        j = i
    else:
        i = k
print(i,j,k)
```

What will the above code print if the variables i, j, and k have the following values?

(a)   i = 3, j = 5, k = 7

(b)   i = -2, j = -5, k = 9

(c)   i = 8, j = 15, k = 12

(d)   i = 13, j = 15, k = 13

(e)   i = 3, j = 5, k = 17

(f)   i = 25, j = 15, k = 17

Ans.

(a) 5 5 7

(b) 9 -5 9

(c) 8 12 12

(d) 13 13 13

(e) 5 5 17

(f) 17 15 17

Q4. Accept the electric units from user and calculate the bill according to the following rates.

First 100 Units   : Free

Next 200 Units   : Rs 2 per day.

Above 300 Units   : Rs 5 per day.

if number of unit is 500 then total bill = 0 +400 + 1000 = 1400

```
Ans.

ut = int(input("Enter number of units"))

if ut <=100:

    amt = 0

elif ut >100 and ut <= 300:

    amt = (ut-100) *2

else:

    amt = 400 + (ut - 300)*5

print("Total amount to pay is ", amt)
```

Q5. Accept the number of days from the user and calculate the charge for library according to following :

First five days : Rs 2/day.

Six to ten days : Rs 3/day.

Ten to 15 days : Rs 4/day

After 15 days   : Rs 5/day

Ans.

```
nd = int(input("Enter number of days "))

if nd <= 5:

    amt = nd * 2

elif nd >=6 and nd <=10:

    amt = nd * 3

elif nd >= 10 and nd <= 15:

    amt = nd * 4

else:

    amt = nd * 5

print("Total amount to pay is ", amt)
```

Q6. Accept the kilometers covered and calculate the bill according to the following criteria:

First 10 Km   Rs11/km

Next 90Km   Rs 10/km

After that   Rs9/km

Ans.

```python
kmc = int(input("Enter the kilometer covered"))

if kmc <=10 :

    amt = kmc * 11

elif kmc > 10 and kmc <= 100:

    amt = 110 + (kmc - 10)*10

elif kmc > 100:

    amt = 1010 + (kmc - 100)*9

print("Total amount to pay is ", amt)
```

Q7. Accept the marks of English, Math and Science, Social Studies Subject and display the stream allotted according to following

All Subjects more than 80 marks —   Science Stream

English >80 and Math, Science above 50 –Commerce Stream

English > 80 and Social studies > 80   —   Humanities

Do it uself