

Dept : Information Technology

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1. A school has the following rules for grading system:

- a. Below 25 - F
- b. 26 to 45 - E
- c. 46 to 50 - D
- d. 51 to 60 - C
- e. 61 to 80 - B
- f. Above 80 - A

Ask user to enter marks and print the corresponding grade.

Source Code:

```
marks = int(input("Enter the marks:"))
if marks < 25:
    print("Grade = F")
elif 26 <= marks <= 45:
    print("Grade = E")
elif 46 <= marks <= 50:
    print("Grade = D")
elif 51 <= marks <= 60:
    print("Grade = C")
elif 61 <= marks <= 80:
    print("Grade = B")
elif marks > 80:
    print("Grade = A")
```

Output: Enter the marks: 66

Grade = B

2. Write a program in python that will accept 3 angles of the triangle and check that triangle is possible, if possible then check that is it "Acute angled triangle", "Right angled triangle" or "Obtuse". Also print a "Triangle is not possible" if the sum of the angles are not 180 degree.

Source Code:

```
a = float(input("Enter the first angle"))
b = float(input("Enter the second angle"))
c = float(input("Enter the third angle"))
if (a+b+c) == 180:
    print("Triangle is possible")
    if a < 90 and b < 90 and c < 90:
        print("Acute angled Triangle")
    elif a == 90 or b == 90 or c == 90:
        print("Right angled Triangle")
    else:
        print("Obtuse angled Triangle")
else:
    print("Triangle not Possible")
```

Output: Enter the first angle: 30
 Enter the second angle: 90
 Enter the third angle: 60
 Triangle is possible
 Right angled Triangle

3. A company divided salary in 4 slabs:

Grade	Basic (Rs. per month)	D.A. (% of basic)	H.R.A. (% of basic)
1.	10,000 or more	40%	30%
2.	5,000 - 10,000	40%	25%
3.	<5,000 but >2,000	30%	20%
4.	2,000 or less	30%	15%

If the salary which is the total of Basic, D.A., and H.R.A., is above Rs 50,000 per month then Income Tax at the rate of 30% of the annual salary exceeding 50,000 is deducted on monthly basis at source. Taking name of the employees and the Basic (monthly) pay as inputs, a pay slip which contains Name, Basic monthly pay, DA, HRA, Monthly Income Tax and Net Monthly Salary, write a python program to perform this job.

Source Code:

```
name = input("Enter the Name of Employee")
basic = float(input("Enter the Basic pay: "))
```

```
da = 0
```

```
hra = 0
```

```
incometax = 0
```

```
if basic >= 10000:
```

```
    da = basic * 0.4
```

```
    hra = basic * 0.3
```

```
elif 5000 <= basic < 10000:
```

```
    da = basic * 0.4
```



```

    hra = basic * 0.25
elif 2000 < basic < 5000:
    da = basic * 0.3
    hra = basic * 0.2

elif basic <= 2000:
    da = basic * 0.3
    hra = basic * 0.15

net = basic + da + hra
if net > 50000:
    incometax = net * 0.3
    net = net - incometax

print("\n! :- PAY SLIP :-")
print("Name of Employee: ", name)
print("Basic Monthly Pay: ", basic)
print("D.A.: ", da)
print("H.R.A.: ", hra)

if incometax > 0:
    print("Monthly Income Tax: ", incometax)
print("Net Monthly Salary: ", net)

```

Output: Enter the name of the Employee: Pranay Gupta

Enter the Basic pay: 30000

! :- PAY SLIP :-

Name of Employee: Pranay Gupta

Basic Monthly Pay: 30000.0

D.A. : 12000.0

HRA : 9000.0

Monthly Income Tax: 15300.0

Net Monthly Salary: 35700.0