**IF and ELSE**

Name: Sheryar Sher

RollNo: 21P-8927

Section: BS-CS

Q1:

Code:

from math import sqrt

# this function calculate the hypotenuse.

base = int(input("enter the base of triangle:"))

perpend = int(input("enter the perpendicular of triangle:"))

def hypo(side1=1, side2=1):

# calculates the hypotenuse

result= sqrt((side1\*\*2)+(side2\*\*2))

return result

answer = hypo(base,perpend)

print(answer,"is the hypotenuse of given triangle.")

Output:



Q2:

Code:

# this programme checks whether the given year is a leap year or not

year = int(input('enter the year that you want to check:'))

def isLeap(year):

if year % 4 ==0 and year % 100 != 0:

print("This is a leap year")

elif year % 100 ==0 and year % 400 == 0:

print("This is a leap year")

else:

print("Sorry, this is not a leap year")

ans = isLeap(year)

Output:



Q3:

Code:

# this programme give us the largest odd number

# this takes three arguments and return us the largest odd number

def largest\_odd(x,y,z):

if (x % 2 and y % 2 and z % 2) != 0:

print(max(x,y,z),"is greatest odd number")

elif (x % 2 and y % 2) != 0 and z % 2 == 0:

print(max(x,y),'is greatest odd number')

elif (x % 2 and z % 2) != 0 and y % 2 == 0:

print(max(x,z),'is greatest odd number')

elif (y % 2 and z % 2) != 0 and x % 2 == 0:

print(max(y,z),'is greatest odd number')

elif (x % 2 and y % 2) == 0 and z % 2 != 0:

print(z,'is greatest odd number')

elif(x % 2 and z % 2) == 0 and y % 2 != 0:

print(y,'is greatest odd number')

elif(z % 2 and y % 2) == 0 and x % 2 != 0 :

print(x,'is greatest odd number')

else:

print("none of them are odd")

largest\_odd(111110,11110,433)

Output:



Q4:

Code:

sub1 = input('enter grade of first subject: ')

sub1 = sub1.upper()

hour1 = float(input('enter credit hour of first subject:'))

sub2 = input('enter grade of second subject')

sub2 = sub2.upper()

hour2 = float(input('enter credit hour of second subject'))

sub3 = input('enter grade of third subject')

sub2 = sub2.upper()

hour3= float(input('enter credit hour of third subject'))

if sub1 == 'A':

sub1 = 4.0

elif sub1 == 'A-':

sub1 = 3.67

elif sub1 == 'B+':

sub1 = 3.33

elif sub1 == 'B':

sub1 = 3.0

elif sub1 == 'B-':

sub1 = 2.67

elif sub1 == 'C+':

sub1 = 2.33

elif sub1 == 'C':

sub1 = 2.0

elif sub1 == 'C-':

sub1 = 1.67

elif sub1 == 'D+':

sub1 = 1.33

elif sub1 == 'D':

sub1 = 1.0

elif sub1 == 'F':

sub1 = 0

else:

print("enter correct Grade")

if sub2 == 'A':

sub2 = 4.0

elif sub2 == 'A-':

sub2 = 3.67

elif sub2 == 'B+':

sub2 = 3.33

elif sub2 == 'B':

sub2 = 3.0

elif sub2 == 'B-':

sub2 = 2.67

elif sub2 == 'C+':

sub2 = 2.33

elif sub2 == 'C':

sub2 = 2.0

elif sub2 == 'C-':

sub2 = 1.67

elif sub2 == 'D+':

sub2 = 1.33

elif sub2 == 'D':

sub2 = 1.0

elif sub2 == 'F':

sub2 = 0

else:

print("enter correct Grade")

if sub3 == 'A':

sub3 = 4.0

elif sub3 == 'A-':

sub3 = 3.67

elif sub3 == 'B+':

sub3 = 3.33

elif sub3 == 'B':

sub3 = 3.0

elif sub3 == 'B-':

sub3 = 2.67

elif sub3 == 'C+':

sub3 = 2.33

elif sub3 == 'C':

sub3 = 2.0

elif sub3 == 'C-':

sub3 = 1.67

elif sub3 == 'D+':

sub3 = 1.33

elif sub3 == 'D':

sub3 = 1.0

elif sub3 == 'F':

sub3 = 0

else:

print("enter correct Grade")

result = (sub1\*hour1 + sub2\*hour2 + sub3\*hour3)

totalHour = (hour1 + hour2 + hour3)

gpa = result / totalHour

print("your GPA is: ", gpa)

Output:

