ASSIGNMENT 3

SUBJECT: CSE1021

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REGISTRATION NUMBER: 20BCE10093

SEMESTER: 1

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1.ANSWER

```
h = float(input("Enter the value of hardness of steel : "))
c = float(input("Enter the value of carbon content : "))
t = float(input("Enter the value of tensile strength : "))
if (h>50 and c<0.7 and t>5600):
    print("Grade = 10")
elif (h>50 and c<0.7):
    print("Grade = 9")
elif (c<0.7 and t>5600):
    print("Grade = 8")
elif (h>50 and t>5600):
    print("Grade = 7")
elif (h>50 or c<0.7 or t>5600):
    print("Grade = 6")
else:
    print("Grade = 5")
```

OUTPUT

```
Enter the value of hardness of steel : 51
Enter the value of carbon content : 0.8
Enter the value of tensile strength : 5700
Grade = 7
```

2.ANSWER

```
t = float(input("Enter the time taken to complete the task : "))
print(" EFFICIENCY : ")
if (t>=2 and t<3):
    print("HIGHLY EFFICIENT WORKER")
elif (t>=3 and t<4):
    print("IMPROVE YOUR SPEED")
elif (t>=4 and t<5):
    print("TRAINING TO IMPROVE SPEED")
else:
    print("LEAVE THE COMPANY")
```

OUTPUT

```
Enter the time taken to complete the task : 3
 EFFICIENCY :
IMPROVE YOUR SPEED
```

3.ANSWER

```
a = float(input("Enter your percentage in subject A : "))
b = float(input("Enter your percentage in subject B : "))
if ((a>=55 and b>=45) or (a<55 and a>=45 and b>=55)):
    print("PASS")
elif (a>=65 and b<=45):
    print("REAPPEAR IN EXAMINATION B")
else:
    print("FAIL")
```

OUTPUT

```
Enter your percentage in subject A : 60
Enter your percentage in subject B : 52
PASS
```

```
Enter your percentage in subject A : 70
Enter your percentage in subject B : 40
REAPPEAR IN EXAMINATION B
```

```
Enter your percentage in subject A : 40
Enter your percentage in subject B : 40
FAIL
```

4.ANSWER

```
s = int(input("Total stock : "))
o = int(input("Enter customer order : "))
c = (input("Is their credit OK (y/n) : "))
if (o <= s and c == 'y'or c == 'Y'):
    print("ORDER WAS SUPPLIED")
elif (o>s and c == 'y' or c == 'Y'):
    print("LIMITED STOCK, BALANCE WOULD BE SHIPPED LATER")
else:
    print("CREDIT NOT OK, CLEAR THE DUES BEFORE PLACING THE ORDER")
```

OUTPUT

```
Total stock : 500
Enter customer order : 56
Is their credit OK (y/n) : y
ORDER WAS SUPPLIED
```

```
Total stock : 500
Enter customer order : 501
Is their credit OK (y/n) : y
LIMITED STOCK, BALANCE WOULD BE SHIPPED LATER
```

```
Total stock : 500
Enter customer order : 92
Is their credit OK (y/n) : n
CREDIT NOT OK, CLEAR THE DUES BEFORE PLACING THE ORDER
```

5.ANSWER

```
c = 'y'
p = 0
n = 0
z = 0
while (c == 'y'):
    t = int(input("Enter the number : "))
    if (t > 0):
        p=p+1
    elif (t == 0):
        z=z+1
    else:
        n=n+1
    c=input("Do you want to continue? (y/n) : ")
    if (c != 'y'):
        break

print("Positive numbers : ",p)
print("\nNegative numbers : ",n)
print("\nZeroes : ",z)
```

OUTPUT

```
Enter the number : -1
Do you want to continue? (y/n) : y
Enter the number : 0
Do you want to continue? (y/n) : y
Enter the number : 12
Do you want to continue? (y/n) : y
Enter the number : 0
Do you want to continue? (y/n) : y
Enter the number : 200
Do you want to continue? (y/n) : y
Enter the number : -23
Do you want to continue? (y/n) : y
Enter the number : -31
Do you want to continue? (y/n) : n
Positive numbers :  2

Negative numbers :  3

Zeroes :  2
```

6.ANSWER

```
import math
def cal(a,b,c,d,e):
    s=a+b+c+d+e
    g=s/5
    a1=(a-g)*(a-g)
    b1=(b-g)*(b-g)
    c1=(c-g)*(c-g)
    d1=(d-g)*(d-g)
    e1=(e-g)*(e-g)
    m=(a1+b1+c1+d1+e1)/5
    n=math.sqrt(m)
    return(s,g,n)

a = float(input("Enter the first number  : "))
b = float(input("Enter the second number : "))
c = float(input("Enter the third number  : "))
d = float(input("Enter the fourth number : "))
e = float(input("Enter the fifth number  : "))
z=cal(a,b,c,d,e)
print("The sum, average and standard deviation respectively : ",z)
```

OUTPUT

```
Enter the first number  : 10
Enter the second number : 20
Enter the third number  : 30
Enter the fourth number : 40
Enter the fifth number  : 50
The sum, average and standard deviation respectively :  (150.0, 30.0, 14.142135623730951)
```

7.ANSWER

```
def marks(a,b,c):
    avg=(a+b+c)/3
    per=(a+b+c)/3
    return(avg,per)

a = float(input("Enter the marks in first subject out of 100  : "))
b = float(input("Enter the marks in second subject out of 100 : "))
c = float(input("Enter the marks in third subject out of 100  : "))
d = marks(a,b,c)
print("Average and Percentage : ",d)
```

OUTPUT

```
Enter the marks in first subject out of 100  : 91
Enter the marks in second subject out of 100 : 92
Enter the marks in third subject out of 100  : 93
Average and Percentage :  (92.0, 92.0)
```

8.ANSWER

```
n = int(input("Enter decimal number : "))
i = 0
b = 0
while (n > 0):
    r = n%2
    b = b+((10**i)*r)
    n = n//2
    i = i+1

print("Binary equivalent : ",b)
```

OUTPUT

```
Enter decimal number : 11
Binary equivalent :  1011
```

9.ANSWER

```
import math
def dist(a,b,c,d):
    d=math.sqrt((c-a)*(c-a)+(d-b)*(d-b))
    return(d)

def area(x1,y1,x2,y2,x3,y3):
    s1=dist(x1,y1,x2,y2)
    s2=dist(x2,y2,x3,y3)
    s3=dist(x1,y1,x3,y3)

    s=(s1+s2+s3)/2
    ar=math.sqrt(s*(s-s1)*(s-s2)*(s-s3))
    return(ar)

def location(x1,x2,x3,y1,y2,y3,x,y):
    a1= area(x1,y1,x2,y2,x,y)
    a2= area(x1,y1,x3,y3,x,y)
    a3= area(x2,y2,x3,y3,x,y)
    a4= area(x1,y1,x2,y2,x3,y3)
    if ((a1+a2+a3) == a4):
        print(1)
    else:
        print(0)


x1=int(input("Enter the x coordinate of side A of the triangle : "))
y1=int(input("Enter the y coordinate of side A of the triangle : "))
x2=int(input("Enter the x coordinate of side B of the triangle : "))
y2=int(input("Enter the y coordinate of side B of the triangle : "))
x3=int(input("Enter the x coordinate of side C of the triangle : "))
y3=int(input("Enter the y coordinate of side C of the triangle : "))
x =int(input("Enter the x coordinate of the arbitary point : "))
y =int(input("Enter the y coordinate of the arbitary point : "))
q=location(x1,y1,x2,y2,x3,y3,x,y)
```

OUTPUT

```
Enter the x coordinate of side A of the triangle : 1
Enter the y coordinate of side A of the triangle : 2
Enter the x coordinate of side B of the triangle : 2
Enter the y coordinate of side B of the triangle : 4
Enter the x coordinate of side C of the triangle : 3
Enter the y coordinate of side C of the triangle : 2
Enter the x coordinate of the arbitary point : 2
Enter the y coordinate of the arbitary point : 3
1
```

10. ANSWER

```
i = 1
b = 0
while(i<=10):
    n = float(input("Enter the total working hours : "))
    if(n >= 40):
        a = n-40
        c = (a*12)
        print("Overtime pay : ",c)
        b = b+c
    else:
        print("NO OVERTIME WORK DONE")
    i = i+1
print("Total overtime pay of 10 employees : ",b)
```

OUTPUT

```
Enter the total working hours : 45
Overtime pay :  60.0
Enter the total working hours : 46
Overtime pay :  72.0
Enter the total working hours : 39
NO OVERTIME WORK DONE
Enter the total working hours : 50
Overtime pay :  120.0
Enter the total working hours : 39
NO OVERTIME WORK DONE
Enter the total working hours : 48
Overtime pay :  96.0
Enter the total working hours : 41
Overtime pay :  12.0
Enter the total working hours : 35
NO OVERTIME WORK DONE
Enter the total working hours : 49
Overtime pay :  108.0
Enter the total working hours : 44
Overtime pay :  48.0
Total overtime pay of 10 employees :  516.0
```