SAAD SAUD 19B-055-SE LAB 05

QUESTION NO 01

In [16]:

```python
def function1(pi,r,h):
    return 2*(pi*r*h) + 2*(pi*r**2)

def function2(pi,r,h):
    return pi*(r**2 * h)

a = function1(3.142,2,4)
print(a)
b = function2(3.142,3,4)
print(b)
```

```
75.408
113.112
```

QUESTION NO 02

In [18]:

```python
def function1(l,b):
    return l * b

def function2(l,b,h):
    return l*b*h

a = function1(3,5)
print(a)
b = function2(5,3,2)
print(b)
```

```
15
30
```

QUESTION NO 03

In [1]:

```python
def function1(a,n,d):
    tn = (a+(n-1)*d)
    return tn

a = int(input("enter the first term:"))
d = int(input("enter the common difference:"))
n = int(input("enter number of terms:"))
print(function1(a,n,d))
while True:
    x = input('Do you want to continue yes or no ? ')
    if x=='yes':
        a = int(input("enter the first term:"))
        d = int(input("enter the common difference:"))
        n = int(input("enter number of terms:"))
        print(function1(a,n,d))
    else:
        print('you are done!')
        break
```

```
enter the first term:3
enter the common difference:6
```

```
enter number of terms:35
207
Do you want to continue yes or no ? yes
enter the first term:3
enter the common difference:6
enter number of terms:45
267
Do you want to continue yes or no ? yes
enter the first term:3
enter the common difference:6
enter number of terms:96
573
Do you want to continue yes or no ? no
you are done!
```

QUESTION NO 04

In [58]:

```python
def palindrome(x):
    if x ==x[::-1]:
        return('yes your string is palindrome!')
    else:
        print('sorry your string is not palindrome')
a = palindrome('civic')
print(a)
b = palindrome('mom')
print(b)
c = palindrome('1001')
print(c)
d = palindrome('010')
print(d)
```

```
yes your string is palindrome!
yes your string is palindrome!
yes your string is palindrome!
yes your string is palindrome!
```

QUESTION NO 05

In [15]:

```python
def function1(obtained_marks,total_marks):
    percentage =( obtained_marks /total_marks) *100
    if percentage>=80:
        print("A+")
        return percentage
    if percentage>=70:
        print("A")
        return percentage
    if percentage >=60:
        print("B")
        return percentage
    if percentage >=50:
        print('C')
        return percentage
    else:
        print("failed")

a =function1(400,500)
print(a)
b =function1(350,500)
print(b)
c = function1(300,500)
print(c)
d = function1(250,500)
print(d)
e = function1(200,500)
```

```
A+
```

```
80.0
A
70.0
B
60.0
C
50.0
failed
```

QUESTION NO 06

In [4]:

```python
def function1(vi,a,t):
    return(vi + (a*t))
a = function1(2,3,5)
print(a,'m/s')
print("\n\t")

def function2(vi,t,a,t2):
    return(vi*t)+1/2*(a*t**2)
b = function2(5,8,6,8)
print(b,'m')
print("\n\t")

def function3(a,vf,vi):
    return(vf**2-vi**2/(2*a))
c = function3(10,8,10)
print(c,'m')
print("\n\t")
```

```
17 m/s


232.0 m


59.0 m
```

QUESTION NO 07

In [2]:

```python
def function1(u,sinx,g):
    return(u**2*(sinx)**2/g)
from math import sin
a = function1(3,45,9.8)
print(a)
```

```
1859.6938775510203
```

QUESTION NO 08

In [1]:

```python
def reverse(string):
    string = string[::-1]
    return string
s='usman institute'
print(reverse(s))
```

```
etutitsni namsu
```

QUESTION NO 10

```python
from math import sin
from math import cos
from math import tan
def trignometry(sin,cos,tan):
    for i in range(1,16):
        a=sin(i)
        b=cos(i)
        c=tan(i)
        print("sin(" + str(i) + ") = " + str(round(sin(i),2)) + "\t\t" + "cos(" + str(i) + ") = " +
            str(round(cos(i),2)) + "\t\t" + "tan(" + str(i) + ") = " + str(round(tan(i),2)))
trignometry(sin,cos,tan)
```

```
sin(1) = 0.84   cos(1) = 0.54   tan(1) = 1.56
sin(2) = 0.91   cos(2) = -0.42   tan(2) = -2.19
sin(3) = 0.14   cos(3) = -0.99   tan(3) = -0.14
sin(4) = -0.76   cos(4) = -0.65   tan(4) = 1.16
sin(5) = -0.96   cos(5) = 0.28   tan(5) = -3.38
sin(6) = -0.28   cos(6) = 0.96   tan(6) = -0.29
sin(7) = 0.66   cos(7) = 0.75   tan(7) = 0.87
sin(8) = 0.99   cos(8) = -0.15   tan(8) = -6.8
sin(9) = 0.41   cos(9) = -0.91   tan(9) = -0.45
sin(10) = -0.54   cos(10) = -0.84   tan(10) = 0.65
sin(11) = -1.0   cos(11) = 0.0   tan(11) = -225.95
sin(12) = -0.54   cos(12) = 0.84   tan(12) = -0.64
sin(13) = 0.42   cos(13) = 0.91   tan(13) = 0.46
sin(14) = 0.99   cos(14) = 0.14   tan(14) = 7.24
sin(15) = 0.65   cos(15) = -0.76   tan(15) = -0.86
```

QUESTION NO 09

```python
message = "KRBRNKNBjOPJOPLSOEJG" #encrypted message
letters = 'ABCDEFGHIJKLMNOPQRSTUVWXYZ'

for key in range(len(letters)):
    translated =''
    for symbol in message:
        if symbol in letters:
            num = letters.find(symbol)
            num = num -key
            if num <0:
                num = num +len(letters)
            translated = translated + letters[num]
        else:
            translated = translated + symbol
print(key,translated)
```

```
25 LSCSOLOCjPQKPQMTPFKH
```