PYTHON LAB EXERCISE

1.WAP that uses at least 3 variables, one keyword and one constant

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

a=int(input("Enter radius: "))
b=int(input("Enter height: "))
pi=3.14
base_area=pi*a**2
if a>0 and b>0:
    vol=base_area*b
    print("Volume of cylinder is",vol," cubic units")
else:
    print("Radius and height must be positive")
```

Output:

Enter radius: 5

Enter height: 10

Volume of cylinder is 785.0 cubic units

2. Identify and correct any syntax errors in the following code

my_variable=10

for=5

Constant=3.14

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

my_variable=10
for_var=5
constant=3.14
print(my_variable,for_var,constant)
```

Output:

10 5 3.14

3.WAP to display a welcome display

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

print("Welcome")
```

Output:

Welcome

4. WAP to display your name and age

Source code:

```
 #Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla
```

```
name='Hasitha'
age=17
print(name,"\n",age)
```

Output:

Hasitha

17

5.WAP to read the name and age from the user and display

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

name=input("Enter name: ")
age=int(input("Enter age: "))
print("DETAILS:")
print(name)
print(age)
```

Output:

Enter name: Hasitha

Enter age: 17

DETAILS:

Hasitha

17

6.WAP to read 2 numbers from the user and perform all athematic operations

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

x=int(input("Enter 2 number: "))
y=int(input())
print("%d+%d=%d"%(x,y,(x+y)))
print("%d-%d=%d"%(x,y,(x-y)))
print("%d*%d=%d"%(x,y,(x*y)))
print("%d/%d=%d"%(x,y,(x/y)))
```

Output:

Enter 2 number: 4

5

4+5=9

4-5=-1

4*5=20

4/5=0

7. WAP to calculate the following

a) The area of a rectangle

Source code:

```
#Roll no: A23126510207
```

```
#CSE_D
#Name: Hasitha Kalla

l=int(input("Enter length of rectangle: "))
b=int(input("Enter breadth: "))
print("Area of rectangle is %d"%(b*l))
```

Output:

Enter length of rectangle: 20

Enter breadth: 10

Area of rectangle is 200

b) The volume of cylinder

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

h=float(input("Enter height of cylinder: "))
r=float(input("Enter radius of base: "))
pi=3.14
print("Volume of cylinder is %f"%(pi*r**2*h))
```

Output:

Enter height of cylinder: 3.25

Enter radius of base: 2.4

Volume of cylinder is 58.780800

c) The circumference of a circle

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

r=float(input("Enter radius of circle: "))
pi=3.14
print("Circumference of circle is %f"%(2*pi*r))
```

Output:

Enter radius of circle: 3.5

Circumference of circle is 21.980000

d) Convert temperature from Celsius to Fahrenheit

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

t=input("Enter temperature with units: ")
temp=float(t[:-1])
unit=t[-1]
if unit=='c' or unit=='C':
    print("Temperature in Fahrenheit is%f"%(((9/5)*temp)+32))
elif unit=='f' or unit=='F':
    print("Temperature in Celsius is%f"%((5/9)*(temp-32)))
else:
    print("Invalid")
```

Output:

Enter temperature with units: 37.8C

Temperature in Fahrenheit is100.040000

e) Convert distance from kilometers to miles.

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

d=float(input('Enter distance in km: '))
print("Distance in miles: %f"%(d*0.621371))
```

Output:

Enter distance in km: 50

Distance in miles: 31.068550

8.WAP program to determine whether a given number is positive, negative, or zero.

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

x=int(input("Enter a number: "))
if x>0:
    print("%d is positive"%x)
elif x<0:
    print("%d is negative"%x)
else:
    print("It is zero")
```

Output:

Enter a number: 4

4 is positive

9.WAP to determine whether a given year is a leap year.

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

year=int(input("Enter year: "))
if(year%4==0 and year%100!=0 or year%400==0):
    print("%d is a leap year"%year)
else:
    print("%d is not a leap year"%year)
```

Output:

Enter year: 2024

2024 is a leap year

10.WAP to find the largest of two numbers. (also, the smallest)

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

a=int(input("Enter 2 numbers: "))
b=int(input())
if a>b:
```

```
    print(a,"is largest")
    print(b,"is smallest")
elif b>a:
    print(b,"is largest")
    print(a,"is smallest")
else:
    print(b,"and",a,"are equal")
```

Output:

Enter 2 numbers: 20

34

34 is largest

20 is smallest

11. WAP to find the largest of three numbers. (also, the smallest)

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

a=int(input("Enter 3 numbers: "))
b=int(input())
c=int(input())
if a>b and a>c:
    print(a,"is largest")
    if b>c:
        print(c,"is smallest")
    else:
        print(b,"is smallest")
elif b>a and b>c:
    print(b,"is largest")
    if a>c:
        print(c,"is smallest")
    else:
```

```
        print(a,"is smallest")
else:
    print(c,"is largest")
    if b>a:
        print(a,"is smallest")
    else:
        print(b,"is smallest")
```

Output:

Enter 3 numbers: 27

-9

18

27 is largest

-9 is smallest

12. WAP to find the sum of all numbers from 1 to n.

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

n=int(input("Enter a positive integer: "))
sum=0
for i in range (1,n+1):
    sum=sum+i
print("The sum of numbers from 1 to",n,"is: ",sum)
```

Output:

Enter a positive integer: 10

The sum of numbers from 1 to 10 is: 55

13. WAP to display the multiplication table of the given number using a loop.

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

n=int(input("Enter a number: "))
print("Multiplication table of",n)
for i in range (1,13):
    print(n,"x",i,"=",n*i)
```

Output:

Enter a number: 5

Multiplication table of 5

5 x 1 = 5

5 x 2 = 10

5 x 3 = 15

5 x 4 = 20

5 x 5 = 25

5 x 6 = 30

5 x 7 = 35

5 x 8 = 40

5 x 9 = 45

5 x 10 = 50

5 x 11 = 55

5 x 12 = 60

14. WAP to find the factorial of a given number.

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla

x=int(input("Enter a non-negative number: "))
fact=1
if x<0:
    print("Invalid")
elif x==0:
    print("Factorial of 0:\n 1")
else:
    for i in range(1,x+1):
        fact*=i
    print("Factorial of",x,"is",fact)
```

Output:

Enter a non-negative number: 5

Factorial of 5 is 120

15. WAP to generate Fibonacci series up to n terms.

Source code:

```
#Roll no: A23126510207
#CSE_D
#Name: Hasitha Kalla
```

```
n=int(input("Enter no.of terms: "))
(a,b)=(0,1)
count=0
if n<=0:
    print("Invalid")
elif n==1:
    print("\nFibonacci sequence upto",n,"terms:")
    print(0)
else:
    print("\nFibonacci sequence upto",n,"terms:")
    while count<n:
        print(a,end=',')
        nth=a+b
        a=b
        b=nth
        count+=1
```

Output:

Enter no.of terms: 10

Fibonacci sequence upto 10 terms:

0,1,1,2,3,5,8,13,21,34,