ASSIGNMENT 1

```
# 1. Write a Python program that will print your mailing address in the following form:
# Name :
# At/Plot No. :
# Po.:
# City:
# Pin:
print("Name: Arpita Patnaik")
print("At/Plot No: 1, Sector 1, Bhubaneswar ")
print("Po: Pokhariput")
print("City: Bhubaneswar")
print("Pin: 751020")
```

```
Name: Arpita Patnaik
At/Plot No: 1, Sector 1, Bhubaneswar
Po: Pokhariput
City: Bhubaneswar
Pin: 751020
```

```
# 2. Write a python program by using a variable to represent a person’s name, and print a message to that person. Your message s
# such as, “Hello Hari, would you like to learn some Python today?”
name = "Arpita"
print("Hello", name, ", would you like to learn some Python today?")
```

```
Hello Arpita , would you like to learn some Python today?
```

```
# 3. Write a Python program to print the following structure:
print("*****************************")
print("* College: Silicon          *")
print("* Address: Silicon Hills    *")
print("* Near DLF Building         *")
print("* Patia                     *")
print("* Bhubaneswar               *")
print("* 751024                    *")
print("*****************************")
```

```
*****************************
* College: Silicon          *
* Address: Silicon Hills    *
* Near DLF Building         *
* Patia                     *
* Bhubaneswar               *
* 751024                    *
*****************************
```

```
# 4. Write a Python program to enter two numbers and display their sum.
num1 = float(input("Enter first number: "))
num2 = float(input("Enter second number: "))
sum_res = num1 + num2
print("The sum of", num1, "and", num2, "is:", sum_res)
```

```
Enter first number: 45
Enter second number: 22
The sum of 45.0 and 22.0 is: 67.0
```

```
# 5. Write a Python program to enter two numbers and find their sum, difference, multiplication, and division display the outpu
num1 = int(input("Enter first number: "))
num2 = int(input("Enter second number: "))
sum_res = num1 + num2
diff_res = num1 - num2
mul_res = num1 * num2
div_res = num1 / num2 if num2 != 0 else "undefined (division by zero)"
print(num1 , "+", num2 , "=" ,sum_res)
print(num1 , "-", num2 , "=" ,diff_res)
print(num1 , "*", num2 , "=" ,mul_res)
print(num1 , "/", num2 , "=" ,div_res)
```

```
Enter first number: 88
Enter second number: 10
88 + 10 = 98
88 - 10 = 78
88 * 10 = 880
88 / 10 = 8.8
```

```
# 6. Write a Python program to find the area and perimeter of a rectangle when the length and breadth are given as input.
length = float(input("Enter the length of the rectangle: "))
breadth = float(input("Enter the breadth of the rectangle: "))
area = length * breadth
perimeter = 2 * (length + breadth)
print("Area of the rectangle is:", area)
print("Perimeter of the rectangle is:", perimeter)
```

```
Enter the length of the rectangle: 9
Enter the breadth of the rectangle: 5
Area of the rectangle is: 45.0
Perimeter of the rectangle is: 28.0
```

```
# 7. Write a Python program to enter the base and height of a triangle, then find the area of the triangle.
base = float(input("Enter the base of the triangle: "))
height = float(input("Enter the height of the triangle: "))
area_triangle = 0.5 * base * height
print("Area of the triangle is:", area_triangle)
```

```
Enter the base of the triangle: 8
Enter the height of the triangle: 6
Area of the triangle is: 24.0
```

```
# 8. Write a Python program to find the volume of a cylinder when the radius and height of that cylinder are given as input
import math
radius = float(input("Enter the radius of the cylinder: "))
height = float(input("Enter the height of the cylinder: "))
volume_cylinder = math.pi * (radius ** 2) * height
print("Volume of the cylinder is:", volume_cylinder)
```

```
Enter the radius of the cylinder: 5.5
Enter the height of the cylinder: 7
Volume of the cylinder is: 665.2322443976387
```

```
# 9. Write a Python program to find the volume of a sphere when the radius of the sphere is given as input
radius_sphere = float(input("Enter the radius of the sphere: "))
volume_sphere = (4/3) * math.pi * (radius_sphere ** 3)
print("Volume of the sphere is:", volume_sphere)
```

```
Enter the radius of the sphere: 12
Volume of the sphere is: 7238.229473870882
```

```
# 10. Write a Python program to find the area and perimeter of a circle when the radius of the circle is given by the user.
radius_circle = float(input("Enter the radius of the circle: "))
area_circle = math.pi * (radius_circle ** 2)
perimeter_circle = 2 * math.pi * radius_circle
print("Area of the circle is:", area_circle)
print("Perimeter of the circle is:", perimeter_circle)
```

```
Enter the radius of the circle: 6
Area of the circle is: 113.09733552923255
Perimeter of the circle is: 37.69911184307752
```

```
# 11. Write a Python program to find the sum of the first n natural numbers when the value for n is given by the user as input
n = int(input("Enter a natural number n: "))
sum_natural_numbers = n * (n + 1) // 2
print("The sum of the first", n, "natural numbers is:", sum_natural_numbers)
```

```
Enter a natural number n: 9
The sum of the first 9 natural numbers is: 45
```

```
# 12. Write a Python program to convert Fahrenheit to Celsius when the value of Fahrenheit is given as input
fahrenheit = float(input("Enter temperature in Fahrenheit: "))
celsius = (fahrenheit - 32) * 5/9
print("Temperature in Celsius is:", celsius)
```

```
Enter temperature in Fahrenheit: 100
Temperature in Celsius is: 37.77777777777778
```

```
# 13. Write a Python program to enter marks in 4 subjects of a student and find the percentage of marks assuming that the full
sub1 = float(input("Enter marks for subject 1: "))
sub2 = float(input("Enter marks for subject 2: "))
sub3 = float(input("Enter marks for subject 3: "))
sub4 = float(input("Enter marks for subject 4: "))
total_marks = sub1 + sub2 + sub3 + sub4
```

```
percentage = (total_marks / 400) * 100
print("Total marks obtained:", total_marks)
print("Percentage of marks:", percentage)
```

```
Enter marks for subject 1: 91
Enter marks for subject 2: 88
Enter marks for subject 3: 87
Enter marks for subject 4: 90
Total marks obtained: 356.0
Percentage of marks: 89.0
```

```
# 14. Write a Python program to enter the distance in centimeters and convert the distance into inches.
distance_cm = float(input("Enter distance in centimeters: "))
distance_inches = distance_cm / 2.54
print("Distance in inches is:", distance_inches)
```

```
Enter distance in centimeters: 155
Distance in inches is: 61.023622047244096
```

```
# 15. Write a Python program to find the simple interest when the principal amount, rate of interest, and time period are given
principal = float(input("Enter the principal amount: "))
rate_of_interest = float(input("Enter the rate of interest (in %): "))
time_period = float(input("Enter the time period (in years): "))
simple_interest = (principal * rate_of_interest * time_period) / 100
print("Simple interest is:", simple_interest)
print("Total amount after interest is:", principal + simple_interest)
```

```
Enter the principal amount: 5500
Enter the rate of interest (in %): 3.5
Enter the time period (in years): 4
Simple interest is: 770.0
Total amount after interest is: 6270.0
```

```
# 16. Write a Python program to find the value of s using the formula s = ut+1/2at2 when the values of u,t, and a are given as
u = float(input("Enter the initial velocity (u): "))
t = float(input("Enter the time (t): "))
a = float(input("Enter the acceleration (a): "))
s = u * t + 0.5 * a * (t ** 2)
print("The value of s is:", s)
```

```
Enter the initial velocity (u): 50
Enter the time (t): 20
Enter the acceleration (a): 10
The value of s is: 3000.0
```

```
# 17. Write a Python program to swap the values of 2 variables using the 3rd variable.
a = input("Enter the first variable (a): ")
b = input("Enter the second variable (b): ")
# Swapping using a third variable
temp = a
a = b
b = temp
print("After swapping:")
print("a =", a)
print("b =", b)
```

```
Enter the first variable (a): 55
Enter the second variable (b): 12
After swapping:
a = 12
b = 55
```

```
# 18. Write a Python program to swap the values of 2 variables without using the 3rd variable.
a = input("Enter the first variable (a): ")
b = input("Enter the second variable (b): ")
# Swapping without using a third variable
a, b = b, a
print("After swapping:")
print("a =", a)
print("b =", b)
```

```
Enter the first variable (a): 12
Enter the second variable (b): 45
After swapping:
a = 45
b = 12
```

```
# 19. Write a Python program to calculate the gross salary of an employee by giving basic salary as input using the following f
# Gross salary = Basic +DA + HRA.
basic_salary = float(input("Enter the basic salary of the employee: "))
DA = 0.60 * basic_salary
HRA = 0.15 * basic_salary
gross_salary = basic_salary + DA + HRA
print("Gross salary of the employee is:", gross_salary)
```

```
Enter the basic salary of the employee: 8000
Gross salary of the employee is: 14000.0
```

```
# 20. Write a Python program to check if a character ’a’ exists in the string “apple” using membership operators.
string = "apple"
character = 'a'
if character in string:
    print("The character " , character, " exists in the string ",string)
else:
    print("The character " , character, " does not exist in the string ",string)
```

```
The character  a  exists in the string  apple
```

Start coding or generate with AI.