INTERNSHIP TASKS

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Course : Python

Org : IGIAT – VSKP

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Day 3: EXERCISE – 3

**#Task 1 : Declare your age as integer variable**

age = int(20)*;*

**#Task 2 : Declare your height as a float variable**

height = float(152.3)*;*

**#Task 3 : Declare a variable that store a complex number**

complex\_value = complex(9 + 1j)*;*

**#Task 4**

print("\nTask 4 : Write a script that prompts the user to enter base & height of the triangle and calculate the area of triangle")*;*

triangle\_base = float(input("Enter base: "))*;*

triangle\_height = float(input("Enter height: "))*;*

triangle\_area = 0.5 \* triangle\_base \* triangle\_height;

print("The Area of the triangle: ", triangle\_area)*;*

print("\n")*;*

**#Task 5**

print("\nTask 5 : Write a script that prompts the user to enter side a, b and c of the triangle. Calculate the perimeter of the triangle.")*;*

side\_a = float(input("Enter side a: "))*;*

side\_b = float(input("Enter side b: "))*;*

side\_c = float(input("Enter side c: "))*;*

triangle\_perimeter = side\_a + side\_b + side\_c*;*

print("The Perimeter of the triangle is : ", triangle\_perimeter)*;*

print("\n")*;*

**#Task 6**

print("\nTask 6 : Get Length and Width of a rectangle using prompt. Calculate its area and perimeter")*;*

rectangle\_length = float(input("Enter length: "))*;*

rectangle\_width = float(input("Enter width: "))*;*

rectangle\_area = rectangle\_length \* rectangle\_width*;*

rectangle\_perimeter = 2 \* (rectangle\_length + rectangle\_width)*;*

print("The Area of rectangle : ", rectangle\_area)*;*

print("The Perimeter of rectangle : ", rectangle\_perimeter)*;*

print("\n")*;*

**#Task 7**

import math as m;

print("\nTask 7 : Get Radius of a cirlce using prompt. Calculate its area and circumference")*;*

circle\_radius = float(input("Enter radius: "))*;*

circle\_area = m.pi \* (circle\_radius \*\* 2)*;*

circle\_circumference = 2 \* m.pi \* circle\_radius*;*

print("The Area of circle : ", circle\_area)*;*

print("The Circumference of circle : ", circle\_circumference)*;*

print("\n")*;*

**#Task 8**

print("\nTask 8 : Calculate the slope, x-intercept and y-intercept of y = 2x-2")*;*

# From y = ax + b

a, b = 2, -2*;*

slope\_1 = a*;*

x\_intercept = -b/a*;*

y\_intercept = b*;*

print("The Slope : ", slope\_1)*;*

print("The x-intercept : ", x\_intercept)*;*

print("The y-intercept : ", y\_intercept)*;*

print("\n")*;*

**#Task 9**

print("\nTask 9 : Find the slope and euclidean distance between point (2, 2) and point (6, 10)")*;*

x1, x2 = 2, 6*;*

y1, y2 = 2, 10*;*

slope\_2 = (y2-y1)/(x2-x1)*;*

euclid\_distance = m.sqrt(m.pow((x2-x1), 2) + m.pow((y2-y1), 2))*;*

print("The Slope : ", slope\_2)*;*

print("The Euclid Distance : ", euclid\_distance)*;*

print("\n")*;*

**#Task 10**

print("\nTask 10 : Compare the slopes in Task 8 and 9")*;*

print("Slope in Task 8 as m1: ", slope\_1)*;*

print("Slope in Task 9 as m2: ", slope\_2)*;*

print("m1 > m2 : ", (slope\_1 > slope\_2), "and,\nm2 > m1 : ", (slope\_2 > slope\_1))*;*

print("\n")*;*

**#Task 11**

print("\nTask 11 : Calculate the value of y (y = x^2 + 6x + 9). Try to use different x values\nfigure out at what x value y is going to be 0.")*;*

x = int(input("Enter the value of x : "))*;*

y = (x\*\*2) + (6\*x) + 9*;*

print("The value of y : ", y)*;*

print("\nUsing different values from -20 to +20 to find out at what x value y is going to be 0.")*;*

x = -20*;*

i = 1*;*

while(x <= 20):

    y = (x\*\*2) + (6\*x) + 9*;*

    if(y == 0):

        print(f"{i}. Y is 0 if X is {x}")*;*

i += 1*;*

    x += 1*;*

print("\n")*;*

**#Task 12**

print("\nTask 12 : Find the length \'python\' and \'dragon\' and make a falsy comparision statement")*;*

print("Length of \'python\' :  ", len("python"))*;*

print("Length of \'dragon\' : ", len("dragon"))*;*

print("Falsy Statement : \n\'python\' == \'dragon\' : ", ("python" == "dragon"))*;*

print("\n")*;*

**#Task 13**

print("\nTask 13: Use \'and\' operator to check if \"on\" is found in both \"python\" and \"dragon\"")*;*

is\_python = "on" in "python"*;*

is\_dragon = "on" in "dragon"*;*

print("Answer: ", ("on" in "python") and ("on" in "dragon"))*;*

print("\n")*;*

**#Task 14**

print("\nTask 14: \"I hope this course is not full of jargon\". Use \'in\' operator to check if \"jargon\" is in the sentence")*;*

print("Answer : ", ("jargon" in "I hope this course is not full of jargon"))*;*

print("\n")*;*

**#Task 15**

print("\nTask 15: There is no \"on\" in both \"dragon\" and \"python\"")*;*

print("Result : ", (("on" not in  "dragon") and ("on" not in "python")))*;*

print("\n")*;*

**#Task 16**

print("\nTask 16 : Find the length of the text \'python\' and convert the value to float and convert it to string.")*;*

len\_python = len("python")*;*

print("The length of Python : ", len\_python , " type : ", type(len\_python))*;*

len\_python = float(len\_python)*;*

print("The length of Python : ", len\_python , " type : ", type(len\_python))*;*

len\_python = str(len\_python)*;*

print("The length of Python : ", len\_python , " type : ", type(len\_python))*;*

print("\n")*;*

**#Task 17**

print("\nTask 17 : How do you check if a number is even or not using python?")*;*

number = int(input("Enter the number : "))*;*

if(number%2 == 0):

    print(f"The number - {number} is EVEN")*;*

else:

    print(f"The number - {number} is ODD")*;*

print("\n")*;*

**#Task 18**

print("\nTask 18 : Check if the floor division of 7 by 3 is equal to the \"int\" converted value of 2.7")*;*

if(7//3 == int(2.7)):

    print("Yes! Floor Division of 7 by 3 is equal to \'int\' converted value of 2.7")*;*

else:

    print("No! Floor Division of 7 by 3 is equal to \'int\' converted value of 2.7")*;*

print("\n")*;*

**#Task 19**

print("\nTask 19 : Check if type of \'10\' is equal to type of 10")*;*

if(type('10') == type(10)):

    print("Yes! The Data types are same!")*;*

else:

    print("No! The Data types are not same!")*;*

print("\n")*;*

**#Task 20**

print("\nTask 20 : Check if int(9.8) is equal to 10")*;*

if(int(9.8) == 10):

    print("Yes! int(9.8) is equal to 10")*;*

else:

    print("No! int(9.8) is not equal to 10")*;*

print("\n")*;*

**#Task 21**

print("\nTask 21: Write a script that prompts the user to enter hours and rate per hour calculate pay of the person?")*;*

hours = int(input("Enter hours : "))*;*

rate\_per\_hour = int(input("Enter rate per hour : "))*;*

weekly\_earning = hours \* rate\_per\_hour*;*

print("Your weekly earning is ", weekly\_earning)*;*

print("\n")*;*

**#Task 22**

print("\nTask 22: Write a script that prompts the user to enter number of years. Calculate the number of seconds a person can live. Assume a person can live hundred years")*;*

years\_you\_lived = int(input("Enter number of years you have lived : "))*;*

if(years\_you\_lived >= 101):

    print("Average person lives maximum upto 100 years! so please enter valid value")*;*

else:

    seconds\_you\_lived = years\_you\_lived \* 365 \* 24 \* 60 \* 60*;*

    print("You have lived for ", seconds\_you\_lived , " seconds.")*;*

print("\n")*;*

**#Task 23**

print("\nTask 23: Write a python script that displays given table in 3.Operators.pptx ")*;*

i = 1*;*

while(i <= 5):

    j = 1*;*

    print(i, end = " ")*;*

    print("1", end=" ")*;*

    while(j <= 3):

        print(i\*\*j, end=" ")*;*

        j+=1*;*

    print("\n")*;*

    i+=1*;*

print("\n")*;*

**Output:**







 