**ASSIGNMENT-1**

**1**. To calculate area of a rectangle:

length = 10

width = 5

area = length \* width

print("Area =", area)

**2.** To convert miles to km:

miles = 10

km = miles \* 1.60934

print(miles, "miles is", km, "km")

**3.** To check palindrome:

def is\_palindrome(s):

return s == s[::-1]

s = "radar"

print(is\_palindrome(s))

**4.** To find second largest element:

list1 = [5, 2, 8, 3, 10]

list1.sort()

print("Second largest:", list1[-2])

**5.** Indentation refers to the spaces at the beginning of a code line. It is used to define blocks of code .

**6.** Set difference:

A = {1, 2, 3, 4}

B = {3, 4, 5}

print(A - B) # {1, 2}

**7.** Print 1 to 10:

i = 1

while i <= 10:

print(i)

i += 1

**8.** Factorial using while loop:

num = 5

factorial = 1

while num > 1:

factorial \*= num

num -= 1

print("Factorial:", factorial)

**9.** Check positive/negative/zero:

num = -5

if num > 0:

print("Positive")

elif num == 0:

print("Zero")

else:

print("Negative")

**10**. Largest of three:

a, b, c = 10, 15, 12

if a > b and a > c:

print("a is largest")

elif b > a and b > c:

print("b is largest")

else:

print("c is largest")

**11.** Array of ones:

import numpy as np

arr = np.ones((2, 3))

print(arr)

12. 2D random integers:

import numpy as np

arr = np.random.randint(0, 10, size=(3, 3))

print(arr)

**13.** linspace:

import numpy as np

arr = np.linspace(1, 10, 5)

print(arr)

**14.** linspace 1 to 100:

import numpy as np

arr = np.linspace(1, 100, 10)

print(arr)

**15.** Even numbers 2 to 20:

import numpy as np

arr = np.arange(2, 21, 2)

print(arr)

**16.** 1 to 10 step 0.5:

import numpy as np

arr = np.arange(1, 10.5, 0.5)

print(arr)

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