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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