SMART INTERNZ - APSCHE-(BEESA SRI KEERTHANA)

AI / ML Training

Assessment

1. Write a Python program to calculate the area of a rectangle given its length and width.

```
length = float(input())
width = float(input())
print(length * width )
```

2. Write a program to convert miles to kilometers

```
miles = float(input())
kilometers = miles * 1.60934
print(kilometers)
```

3. Write a function to check if a given string is a palindrome.

```
def palin(s):
    if s[::-1]==s:
        print("Palindrome")
    else:
        print("Not Palindrome")
s=input()
palin(s)
```

4. Write a Python program to find the second largest element in a list.

```
l=[5,6,1,4,7,9,4]
l=sorted(list(set(l)))
print(l[-2])
```

5. Explain what indentation means in Python.

   • Defining the structure and scope of code blocks

6. Write a program to perform set difference operation.

```
s1 = {10, 20, 30, 40, 50}
s2 = {30, 40, 50, 60, 70}
res = s1 - s2
print(res)
```

7. Write a Python program to print numbers from 1 to 10 using a while loop.

```
a=1
while a<=10:
    print(a)
    a+=1
```

8. Write a program to calculate the factorial of a number using a while loop.

```python
n = int(input())
a = 1
while n:
    a = a * n
    n -= 1
print(a)
```

9. Write a Python program to check if a number is positive, negative, or zero using if-elif-else statements.

```python
n=int(input())
if n<0:
    print("Negative")
elif n==0:
    print("Zero")
else:
    print("Positive")
```

10. Write a program to determine the largest among three numbers using conditional statements.

```python
n1=float(input())
n2=float(input())
n3=float(input())
if n1>=n2 and n1>=n3:
    l=n1
elif n2>=n1 and n2>=n3:
    l=n2
else:
    l=n3
print("The largest number ",l)
```

11. Write a Python program to create a numpy array filled with ones of given shape.

```python
import numpy as np
r=int(input())
c=int(input())
arr=np.ones((r,c))
print("NumPy Array filled with ones:")
print(arr)
```

12. Write a program to create a 2D numpy array initialized with random integers.

```python
import numpy as np
r=int(input())
c=int(input())
arr= np.random.randint(low=1, high=100, size=(r, c))
print("2D NumPy Array initialized with random integers:")
print(arr)
```

13. Write a Python program to generate an array of evenly spaced numbers over a specified range using linspace.

```python
import numpy as np
st=float(input())
end=float(input())
numbers=int(input())
arr=np.linspace(st,end,numbers)
print("Array of evenly spaced numbers:")
print(arr)
```

14. Write a program to generate an array of 10 equally spaced values between 1 and 100 using linspace.

```python
import numpy as np
arr=np.linspace(1, 100, 10)
print(arr)
```

15. Write a Python program to create an array containing even numbers from 2 to 20 using arange.

```python
import numpy as np
arr=np.arange(2,21,2)
print(arr)
```

16. Write a program to create an array containing numbers from 1 to 10 with a step size of 0.5 using arange.

```python
import numpy as np
arr=np.arange(1,10.5,0.5)
print(arr)
```