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Section: "A"

Lab :   04

Subject: Artificial Intelligence

Program: BS-IT

Task 01: Write a Python function to check if a number is even or odd.

Code :

```python
number = int(input("Enter a number: "))
if number % 2 == 0:
    print(f"The number {number} is Even.")
else:
    print(f"The number {number} is Odd.")
```

Result:

```
Enter a number: 10
The number 10 is Even.
PS D:\Users\junaid\Desktop
Enter a number: 5
The number 5 is Odd.
```

Task 02: Write a Python function to find the maximum of three numbers.

Code :

```python
def find_max_of_three(num1, num2, num3):
    if num1 >= num2 and num1 >= num3:
        return num1
    elif num2 >= num1 and num2 >= num3:
        return num2
    else:
        return num3


a = 10
b = 25
c = 15
max_value = find_max_of_three(a, b, c)
print(f"The maximum of {a}, {b}, and {c} is {max_value}.")
```

Result:

```
The maximum of 10, 25, and 15 is 25.
```

Task 03:   Make starred shapes using Loops

1. Right-Angled Triangle

Code :

```
n = 5
for i in range(1, n + 1):
    print('*' * i)
```

Result:

```
*
**
***
****
*****
```

2. Inverted Right-Angled Triangle

Code :

```
n = 5
for i in range(n, 0, -1):
    print('*' * i)
```

Result:

```
*****
****
***
**
*
```

3. Pyramid

Code :

```python
n = 5
for i in range(n):
    print(' ' * (n - i - 1) + '*' * (2 * i + 1))

```

Result:

```
    *
   ***
  *****
 *******
*********
```

4. Diamond Shape

Code :

```python
n = 5
for i in range(n):
    print(' ' * (n - i - 1) + '*' * (2 * i + 1))
for i in range(n - 1):
    print(' ' * (i + 1) + '*' * (2 * (n - i - 1) - 1))
```

Result:

```
    *
   ***
  *****
 *******
*********
 *******
  *****
   ***
    *
```

5. Hollow Square

Code :

```python
n = 5
for i in range(n):
    if i == 0 or i == n - 1:
        print('*' * n)
    else:
        print('*' + ' ' * (n - 2) + '*')
```

Result:

```
*****
*   *
*   *
*   *
*****
```