In [1]:
```python
num = float(input("Enter a number: "))

if num > 0:
    print("The number is positive.")
elif num < 0:
    print("The number is negative.")
else:
    print("The number is zero.")
```

The number is positive.

In [2]:
```python
number = int(input("Enter a number: "))

if number % 2 == 0:
    print("The number is even.")
else:
    print("The number is odd.")
```

The number is odd.

In [3]:
```python
num1 = float(input("Enter the first number: "))
num2 = float(input("Enter the second number: "))

if num1 > num2:
    print("The first number is greater.")
elif num1 < num2:
    print("The second number is greater.")
else:
    print("Both numbers are equal.")
```

The second number is greater.

In [4]:
```python
for i in range(1, 11):
    print(i)
```

1
2
3
4
5
6
7
8
9
10

In [5]:
```python
for i in range(2, 21, 2):
    print(i)
```

2
4
6
8
10
12
14
16
18
20

In [6]:
```python
for i in range(1, 21, 2):
    print(i)
```

```
1
3
5
7
9
11
13
15
17
19
```

In [7]:
```python
total = 0

for i in range(1, 101):
    total += i

print("The sum is:", total)
```

```
The sum is: 5050
```

In [8]:
```python
char = input("Enter a letter: ")

if char in 'aeiouAEIOU':
    print("Vowel")
else:
    print("Consonant")
```

```
Vowel
```

In [9]:
```python
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))
c = int(input("Enter third number: "))

if a >= b and a >= c:
    print("The greatest number is:", a)
elif b >= a and b >= c:
    print("The greatest number is:", b)
else:
    print("The greatest number is:", c)
```

```
The greatest number is: 111
```

In [10]:
```python
for i in range(1, 11):
    print(i)
```

```
1
2
3
4
5
6
7
8
9
10
```

In [11]:
```python
numbers = [int(x) for x in input("Enter numbers separated by space: ").split()]
```

```python
if len(numbers) > 0 and numbers[0] == numbers[-1]:
    print("The first and last numbers are the same.")
else:
    print("The first and last numbers are different.")
```

The first and last numbers are the same.

In [12]:
```python
numbers = [12, 25, 30, 47, 50, 61, 75, 80]

for num in numbers:
    if num % 5 == 0:
        print(num)
```

25
30
50
75
80

In [13]:
```python
year = int(input("Enter a year: "))

if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
    print(f"{year} is a leap year.")
else:
    print(f"{year} is not a leap year.")
```

2004 is a leap year.

In [18]:
```python
for i in range(1, 26,):
    if i % 5 != 0:
        print(i)
```

1
2
3
4
6
7
8
9
11
12
13
14
16
17
18
19
21
22
23
24

In [19]:
```python
numbers = [12, -7, 5, -3, 9, -1, 0]

positives = []
negatives = []

for num in numbers:
    if num > 0:
        positives.append(num)
    elif num < 0:
```

```python
        negatives.append(num)

print("Positive numbers:", positives)
print("Negative numbers:", negatives)
```

```
Positive numbers: [12, 5, 9]
Negative numbers: [-7, -3, -1]
```

In [20]:
```python
n = 5
for i in range(n):
    for j in range(n):
        print("*", end=" ")
    print()
```

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

In [21]:
```python
marks = float(input("Enter your marks (0-100): "))

if marks >= 90:
    grade = 'A'
elif marks >= 80:
    grade = 'B'
elif marks >= 70:
    grade = 'C'
elif marks >= 60:
    grade = 'D'
elif marks >= 50:
    grade = 'E'
else:
    grade = 'F'

print(f"Your grade is: {grade}")
```

```
Your grade is: A
```

In [22]:
```python
import math

numbers = [3, 5, 7]

for num in numbers:
    fact = math.factorial(num)
    print(f"Factorial of {num} is {fact}")
```

```
Factorial of 3 is 6
Factorial of 5 is 120
Factorial of 7 is 5040
```

In [23]:
```python
for i in range(1, 101):
    print(i)
```

```
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
```

```
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
```

```python
In [24]:  for i in range(1, 101):
              if i % 3 == 0 and i % 5 == 0:
                  print("FizzBuzz")
              elif i % 3 == 0:
                  print("Fizz")
              elif i % 5 == 0:
                  print("Buzz")
              else:
                  print(i)
```

```
1
2
Fizz
4
Buzz
Fizz
7
8
Fizz
Buzz
11
Fizz
13
14
FizzBuzz
16
17
Fizz
19
Buzz
Fizz
22
23
Fizz
Buzz
26
Fizz
28
29
FizzBuzz
31
32
Fizz
34
Buzz
Fizz
37
38
Fizz
Buzz
41
Fizz
43
44
FizzBuzz
46
47
Fizz
49
Buzz
Fizz
52
53
Fizz
Buzz
56
Fizz
58
59
FizzBuzz
```

```
61
62
Fizz
64
Buzz
Fizz
67
68
Fizz
Buzz
71
Fizz
73
74
FizzBuzz
76
77
Fizz
79
Buzz
Fizz
82
83
Fizz
Buzz
86
Fizz
88
89
FizzBuzz
91
92
Fizz
94
Buzz
Fizz
97
98
Fizz
Buzz
```

In [ ]: