```
number = float(input("Enter a number: "))
if number > 0:
    print("The number is positive.")
elif number < 0:
    print("The number is negative.")
else:
    print("The number is zero.")
```

```
Enter a number: 5
The number is positive.
```

```
a=float(input("Enter first number: "))
b= float(input("Enter second number: "))
c= float(input("Enter third number: "))
largest = max(a,b,c)
print(f"The largest number is {largest}")
```

```
Enter first number: 15
Enter second number: 16
Enter third number: 17
The largest number is 17.0
```

```
score = float(input("Enter your score (0-100): "))

if score > 85:
    print("Excellent")
elif score >= 70:
    print("Good")
else:
    print("Needs Improvement")
```

```
Enter your score (0-100): 55
Needs Improvement
```

```
p =float(input("Enter principal amount: "))
R = float(input ("Enter rate of interest (in %): ")) / 100
T = float(input("Entr time (in years): "))
interest = P * R * T
print(f"The simple interest is : {interest}")
```

```
Enter principal amount: 900000.50
Enter rate of interest (in %): 10.5
Entr time (in years): 5.5
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-23-9b28b9526ab1> in <cell line: 4>()
      2 R = float(input ("Enter rate of interest (in %): ")) / 100
      3 T = float(input("Entr time (in years): "))
----> 4 interest = P * R * T
      5 print(f"The simple interest is : {interest}")

NameError: name 'P' is not defined
```

Next steps: Explain error

```
print("Ever numbers between 1 and 100: ")
for i in range (1,101):
  if i% 2==0:
    print(i, end = ' ')
    print()
```

```
Ever numbers between 1 and 100:
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
```

```
34
36
38
40
42
44
46
48
50
52
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
84
86
88
90
92
94
96
98
100
```

```
number = int (input ("Enter a number: "))
print (f" Multiples of {number} up to 100: ")
for i in range(1, 101):
  if i % number == 0:
    print(i,end= ' ')
    print()
```

```
Enter a number: 55
 Multiples of 55 up to 100:
55
```

```
countdown_start= int(input ("Enter a number to start countdown: "))
while countdown_start >= 0:
  print(countdown_start)
  countdown_start -=1
```

```
Enter a number to start countdown: 50
50
49
48
47
46
45
44
43
42
41
40
39
38
37
36
35
34
33
32
31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
```

```
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
```

```
number = int (input("Enter a non- negative interger: "))
factorial = 1
for i in range (1, number +1):
  factorial *=i
  print(f"The factorial of {number} is {factorial}.")
```

```
Enter a non- negative interger: 10
The factorial of 10 is 1.
The factorial of 10 is 2.
The factorial of 10 is 6.
The factorial of 10 is 24.
The factorial of 10 is 120.
The factorial of 10 is 720.
The factorial of 10 is 5040.
The factorial of 10 is 40320.
The factorial of 10 is 362880.
The factorial of 10 is 3628800.
```

```
n= int(input("Enter a number: "))
total = sum(range(1, n+1))
print(f"The sum of natural numbers up to {n} is [to]")
```

```
Enter a number: 10
The sum of natural numbers up to 10 is [to]
```

```
number = int(input("Enter a number: "))
is_prime = True

if number > 1:
    for i in range(2, int(number ** 0.5) + 1):
        if number % i == 0:
            is_prime = False
            break

    if is_prime:
        print(f"{number} is a prime number.")
    else:
        print(f"{number} is not a prime number.")
else:
    print(f"{number} is not a prime number.")
```

```
Enter a number: 15
15 is not a prime number.
```

```
n = int(input("Enter the number of terms in Fibonacci sequence: "))
a, b = 0, 1
print("Fibonacci sequence: ")
for _ in range(n):
    print(a, end=' ')
    a, b = b, a + b
```

```
Enter the number of terms in Fibonacci sequence: 20
Fibonacci sequence:
0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987 1597 2584 4181
```

```
char = input("Enter a character:").lower()
if char in 'aeiou':
    print(f"{char} is a vowel.")
else:
    print(f"{char} is a consonant.")
```

```
Enter a character:p
p is a consonant.
```

```
import random

number_to_guess = random.randint(1, 100)
guess = None

while guess != number_to_guess:
    guess = int(input("Guess a number between 1 and 100: "))

    if guess < number_to_guess:
        print("Too low!")
    elif guess > number_to_guess:
        print("Too high!")

print("Congratulations! You've guessed the number.")
```

```
Guess a number between 1 and 100: 10
Too low!
Guess a number between 1 and 100: 100
Too high!
Guess a number between 1 and 100: 10000
Too high!
Guess a number between 1 and 100: 0
Too low!
Guess a number between 1 and 100: p
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
<ipython-input-37-4f741b2b4220> in <cell line: 6>()
      5
      6 while guess != number_to_guess:
----> 7     guess = int(input("Guess a number between 1 and 100: "))
      8
      9     if guess < number_to_guess:

ValueError: invalid literal for int() with base 10: 'p'
```

Next steps: Explain error

```
string = input("Enter a string: ")
char = input("Enter the character to count: ")
count = string.count(char)
print(f"The character '{char}' appears {count} times in the string.")
```

```
Enter a string: 10
Enter the character to count: pp
The character 'pp' appears 0 times in the string.
```

```
string = input("Enter a string: ")


if string == string[::-1]:
    print(f"{string} is a palindrome.")
else:
    print(f"{string} is not a palindrome.")
```

```
Enter a string: 50a
50a is not a palindrome.
```

```
def calculator():
    num1 = float(input("Enter first number: "))
    operator = input("Enter an operator (+, -, *, /): ")
    num2 = float(input("Enter second number: "))

    if operator == '+':
        result = num1 + num2
    elif operator == '-':
        result = num1 - num2
    elif operator == '*':
        result = num1 * num2
    elif operator == '/':
        if num2 == 0:
            return "Division by zero is not allowed."
        result = num1 / num2
    else:
        return "Invalid operator."

    return f"The result is: {result}"

# Call the function
print(calculator())
```

```
Enter first number: 10
Enter an operator (+, -, *, /): *
Enter second number: 25
The result is: 250.0
```

```
height = int(input("Enter the height of the pyramid: "))

for i in range(height):
    # Print leading spaces and stars
    print(' ' * (height - i - 1) + '*' * (2 * i + 1))
```

```
Enter the height of the pyramid: 10
          *
         ***
        *****
       *******
      *********
     ***********
    *************
   ***************
  *****************
 *******************
```

```
n=int(input("enter a number: "))
total = sum(i for i in range (1, n+1) if i%2!=0)
print(F"the sum of odd numbers from 1 tp {n} is {total}.")
```

```
enter a number: 10
the sum of odd numbers from 1 tp 10 is 25.
```

```
month = int(input("Enter month number (1-12): "))
year = int(input("Enter year: "))

if month == 2:
    # Check for leap year
    if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):
        print("February has 29 days.")
    else:
        print("February has 28 days.")
elif month in [4, 6, 9, 11]:
    print(f"The month has 30 days.")
else:
    print(f"The month has 31 days.")
```

```
Enter month number (1-12): 8
Enter year: 2027
The month has 31 days.
```

```
number = int(input("Enter a number for multiplication table:"))
print(f"Multiplication table for {number}: ")
for i in range(1, 11):
    print(f"{number} * {i} = {number * i}")
```

```
Enter a number for multiplication table:10
Multiplication table for 10:
10 * 1 = 10
10 * 2 = 20
10 * 3 = 30
10 * 4 = 40
10 * 5 = 50
10 * 6 = 60
10 * 7 = 70
10 * 8 = 80
10 * 9 = 90
10 * 10 = 100
```