Maximum of two numbers

Aim:

To write a Python program to find the greater of two given numbers.

Algorithm:

Step 1: Start

Step 2: Input decimal numbers n1 and n2 from user.

Step 3: If n1 > n2, display n1. Else, display n2.

Step 4: Stop

Program Code:

```
n1 = float (input("Enter number 1: "))
n2 = float (input("Enter number 2: "))
print (n1 if n1>n2 else n2, " is the greater number.")
```

Sample I/O:

```
Enter number 1: 3
Enter number 2: 5
5.0 is the greater number.
```

Maximum of 3 numbers

Aim:

To write a Python program to out the largest of three numbers entered by the user.

Algorithm:

Step 1: Start

Step 2: Input integer n1, n2 and n3 from user. Set x = n1

Step 3: If n1 > n2 and n1 > n3, go to step 6.

Step 4: If n2 > n1 and n2 > n3, set x = n2. Go to step 6.

Step 5: If n3 > n1 and n3 > n2, set x = n3.

Step 6: Display x.

Step 7: Stop.

Program Code:

```
n1 = float(input("Enter number 1: "))
n2 = float(input("Enter number 2: "))
n3 = float(input("Enter number 3: "))
x = n1
if (n1 > n2 and n1 > n3): x = n1
elif (n2 > n3 and n2 > n1): x = n2
elif (n3 > n1 and n3 > n2): x = n3

print (x, " is the greatest number.")
```

Sample I/O:

```
Enter number 1: 3

Enter number 2: 4

Enter number 3: 5

5.0 is the greatest number.
```

Simple Calculator

Aim:

To write a simple calculator program in Python language, to perform the 4 basic mathematical operations, along with the mod operation.

Algorithm:

Step 1: Start

Step 2: Input two decimal numbers (operands) n1 and n2 from the user. Also input a string op (operator).

Step 3: Set result = 0.

Step 4: If op = '+', set result = n1 + n2. Go to step 10.

Step 5: If op = '–', set result = n1 – n2. Go to step 10.

Step 6: If op = '*', set result = n1*n2. Go to step 10.

Step 7: If op = '%', and n2 ≠ 0, set result = n1%n2. Go to step 10. If n2 = 0, display "Division by Zero Error". Go to step 11..

Step 8: If op = '/', and n2 ≠ 0, set result = n1/n2. Go to step 10. If n2 = 0, display "Division by Zero Error". Go to step 11.

Step 9: Else, display "Invalid operation symbol". Go to step 11.

Step 10: Display result.

Step 11: Stop.

Program Code:

```
n1 = float(input("Enter number 1: "))
n2 = float(input("Enter number 2: "))

op = input("Enter operator: ")
print("Result: ", end = ' ')

if op == '+':
print(n1 + n2)
elif op == '-':
print(n1 - n2)
elif op == '*':
print(n1*n2)
elif op == '/':
if n2 == 0: print("NaN. Division by zero is illegal.")
else: print (n1/n2)
elif op == '%':
if n2 == 0: print("NaN. Division by zero is illegal.")
else: print (n1%n2)
else:
print("Error. Invalid operation symbol...")
```

Sample I/O:

```
Enter number 1: -5.6

Enter number 2: 3.4

Enter operator: /

Result:  -1.6470588235294117
```

Assigning Grades for Marks

Aim:

To write a Python program to assign a particular grade from A to F, given the total marks percentage, according to the table:

Marks Percentage	Grade
90 and above	A
80-89	B
70-79	C
60-69	D
50-59	E
Below 50	F

Algorithm:

Step 1: Start

Step 2: Input decimal number ‘marks’.

Step 3: If marks >= 90, print ‘A’.

Else if marks >= 80 and marks < 90, print ‘B’.

Else if marks >= 70 and marks < 80, print ‘C’.

Else if marks >= 60 and marks < 70, print ‘D’.

Else if marks >= 50 and marks < 60, print ‘E’.

Else if marks < 50, print ‘F’.

Step 4: Stop.

Program Code:

```
marks = float(input("Enter the total marks: "))
grade = 'NULL'
if (marks >= 90):
grade='A'
elif marks >= 80 and marks < 90:
grade='B'
elif marks >= 70 and marks < 80:
grade='C'
elif marks >= 60 and marks < 70:
grade='D'
elif marks >= 50 and marks < 60:
grade='E'
else: grade = 'F'

print("Your grade is: ", grade)
```

Sample I/O:

```
Enter the total marks: 89.99

Your grade is:  B
```