

ACTIVITY 05: FUNCTION

Create a program that will simulate the following mathematical operations. Design a menu that will ask the user to enter the choice and provide each functions for each operations. The functions must provide the following validation on each given input. A None value must be return.

[D] - Divide (the second number or denominator must not be equal to zero)

[E] - Exponentiation

[R] - Remainder (the second number or denominator must not be equal to zero)

[F] - Summation (the two numbers are the limits and it must be the second number must be greater than the first number, if the input is 4 and 8 the sum must be $4 + 5 + 6 + 7 + 8$).

DIVISION:

```
=====
|               Program by Pauline Mapoy               |
|             ~ MATHEMATICAL OPERATIONS MENU ~         |
|=====|
|               [D] - Divide                            |
|               [E] - Exponentiation                    |
|               [R] - Remainder                         |
|               [F] - Summation                         |
|               [Q] - Quit                              |
|=====|
|
| ENTER YOUR CHOICE: D
|
|=====|
|
| Enter 1st Number : 10
| Enter 2nd Number : 2
|
| RESULT: 5.0
|
|=====|
| Do you want to Perform Another Calculation? (Y/N): N
|
|=====|
|               THANK YOU FOR USING THE PROGRAM        |
|               Come Back Again! :)                    |
|=====|
```

DIVISION (INVALID):

```
=====
|               Program by Pauline Mapoy               |
|             ~ MATHEMATICAL OPERATIONS MENU ~         |
|=====|
|               [D] - Divide                            |
|               [E] - Exponentiation                    |
|               [R] - Remainder                         |
|               [F] - Summation                         |
|               [Q] - Quit                              |
|=====|
|
| ENTER YOUR CHOICE: D
|
|=====|
|
| Enter 1st Number : 10
| Enter 2nd Number : 0
|
|
|=====|
|               !! ERROR !! Division by Zero is Not Allowed
|=====|
```

EXPONENTIATION:

```
=====
|               Program by Pauline Mapoy               |
|             ~ MATHEMATICAL OPERATIONS MENU ~         |
|=====|
|               [D] - Divide                            |
|               [E] - Exponentiation                    |
|               [R] - Remainder                         |
|               [F] - Summation                         |
|               [Q] - Quit                              |
|=====|
|
| ENTER YOUR CHOICE: E
|
|=====|
|
| Enter 1st Number : 2
| Enter 2nd Number : 3
|
| RESULT: 8
|
|=====|
| Do you want to Perform Another Calculation? (Y/N): N
|
|=====|
|               THANK YOU FOR USING THE PROGRAM        |
|               Come Back Again! :)                    |
|=====|
```

REMAINDER:

```
=====
|               Program by Pauline Mapoy               |
|             ~ MATHEMATICAL OPERATIONS MENU ~         |
|=====|
|               [D] - Divide                            |
|               [E] - Exponentiation                    |
|               [R] - Remainder                         |
|               [F] - Summation                         |
|               [Q] - Quit                              |
|=====|
|
| ENTER YOUR CHOICE: R
|
|=====|
|
| Enter 1st Number : 10
| Enter 2nd Number : 3
|
| RESULT: 1
|
|=====|
| Do you want to Perform Another Calculation? (Y/N): N
|
|=====|
|               THANK YOU FOR USING THE PROGRAM        |
|               Come Back Again! :)                    |
|=====|
```

REMAINDER (INVALID):

```
=====
|               Program by Pauline Mapoy               |
|             ~ MATHEMATICAL OPERATIONS MENU ~         |
|=====|
|               [D] - Divide                            |
|               [E] - Exponentiation                    |
|               [R] - Remainder                          |
|               [F] - Summation                          |
|               [Q] - Quit                               |
|=====|
```

ENTER YOUR CHOICE: R

```
=====
Enter 1st Number : 10
Enter 2nd Number : 0
```

```
-----
!! ERROR !! Division by Zero is Not Allowed
-----
```

SUMMATION:

```
=====
|               Program by Pauline Mapoy               |
|             ~ MATHEMATICAL OPERATIONS MENU ~         |
|=====|
|               [D] - Divide                            |
|               [E] - Exponentiation                    |
|               [R] - Remainder                          |
|               [F] - Summation                          |
|               [Q] - Quit                               |
|=====|
```

ENTER YOUR CHOICE: F

```
=====
Enter 1st Number : 4
Enter 2nd Number : 8
```

RESULT: 30

```
=====
Do you want to Perform Another Calculation? (Y/N): N
=====
```

```
=====
|               THANK YOU FOR USING THE PROGRAM         |
|               Come Back Again! :)                    |
|=====|
```

SUMMATION (INVALID):

```
=====
|               Program by Pauline Mapoy               |
|             ~ MATHEMATICAL OPERATIONS MENU ~         |
|=====|
|               [D] - Divide                            |
|               [E] - Exponentiation                    |
|               [R] - Remainder                          |
|               [F] - Summation                          |
|               [Q] - Quit                               |
|=====|
```

ENTER YOUR CHOICE: F

```
=====
Enter 1st Number : 8
Enter 2nd Number : 4
```

```
-----
!! ERROR !! The second number must be
greater than or equal to the first number
-----
```

QUIT PROGRAM:

```
=====
|               Program by Pauline Mapoy               |
|             ~ MATHEMATICAL OPERATIONS MENU ~         |
|=====|
|               [D] - Divide                            |
|               [E] - Exponentiation                    |
|               [R] - Remainder                          |
|               [F] - Summation                          |
|               [Q] - Quit                               |
|=====|
```

ENTER YOUR CHOICE: Q

```
=====
|               THANK YOU FOR USING THE PROGRAM         |
|               Come Back Again! :)                    |
|=====|
```