

EE 2905

Dr. Johnson

Program 3

No capabilities beyond those
discussed in class or in the notes
are allowed

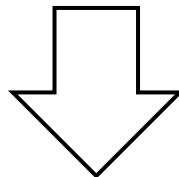
Repeat Program 2 using functions

Use the following function prototypes (declarations)

```
// function prototypes
float get_val(char side);
char get_op(void);
void calc_print_results(float val_l, float val_r, char oper);
```

Turn in your code, and screenshots for values of

3.3	1.1	/
2.3	2.3	*
4.6	1.6	+
4.6	4.6	-
6.6	5.5	%



```
////////////////////////////////////
//
// program_3 project
//
// created 8/12/21 by tj
// rev 0
//
////////////////////////////////////
//
// Program to provide various calculations w/ functions
//
// Reads in a values for val1 and val2
// Reads in the desired operation
// Provides the result
//
// inputs: 2 values for val1 and val2, a character for the operation
// outputs: prints result of val1 operation val2
//
////////////////////////////////////

#include "mbed.h"
#include <stdio.h> // only needed when printing

// function prototypes
float get_val(char side);
char get_op(void);
void calc_print_results(float val_l, float val_r, char oper);

int main(void){
    setbuf(stdout, NULL); // disable buffering when printing

    // splash
    printf("\n\nprogram_3\n");
    printf("Using Mbed OS version %d.%d.%d\n",
        MBED_MAJOR_VERSION, MBED_MINOR_VERSION, MBED_PATCH_VERSION);
    printf("Welcome to my calculator program (using functions)\n\n");

    float val1;
    float val2;
    char operation;

    // infinite loop
    while(1){
        // ask for and read in values and operation
        val1 = get_val('L');
        val2 = get_val('R');
        operation = get_op();

        calc_print_results(val1, val2, operation);
    } // end while

    return 0;
} // end main
```

```
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// program_3 project
//
// created 8/12/21 by tj
// rev 0
//
////////////////////////////////////
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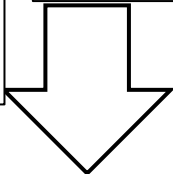
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    printf("Using Mbed OS version %d.%d.%d\n",
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    printf("Welcome to my calculator program (using functions)\n\n");

    float val1;
    float val2;
    char operation;

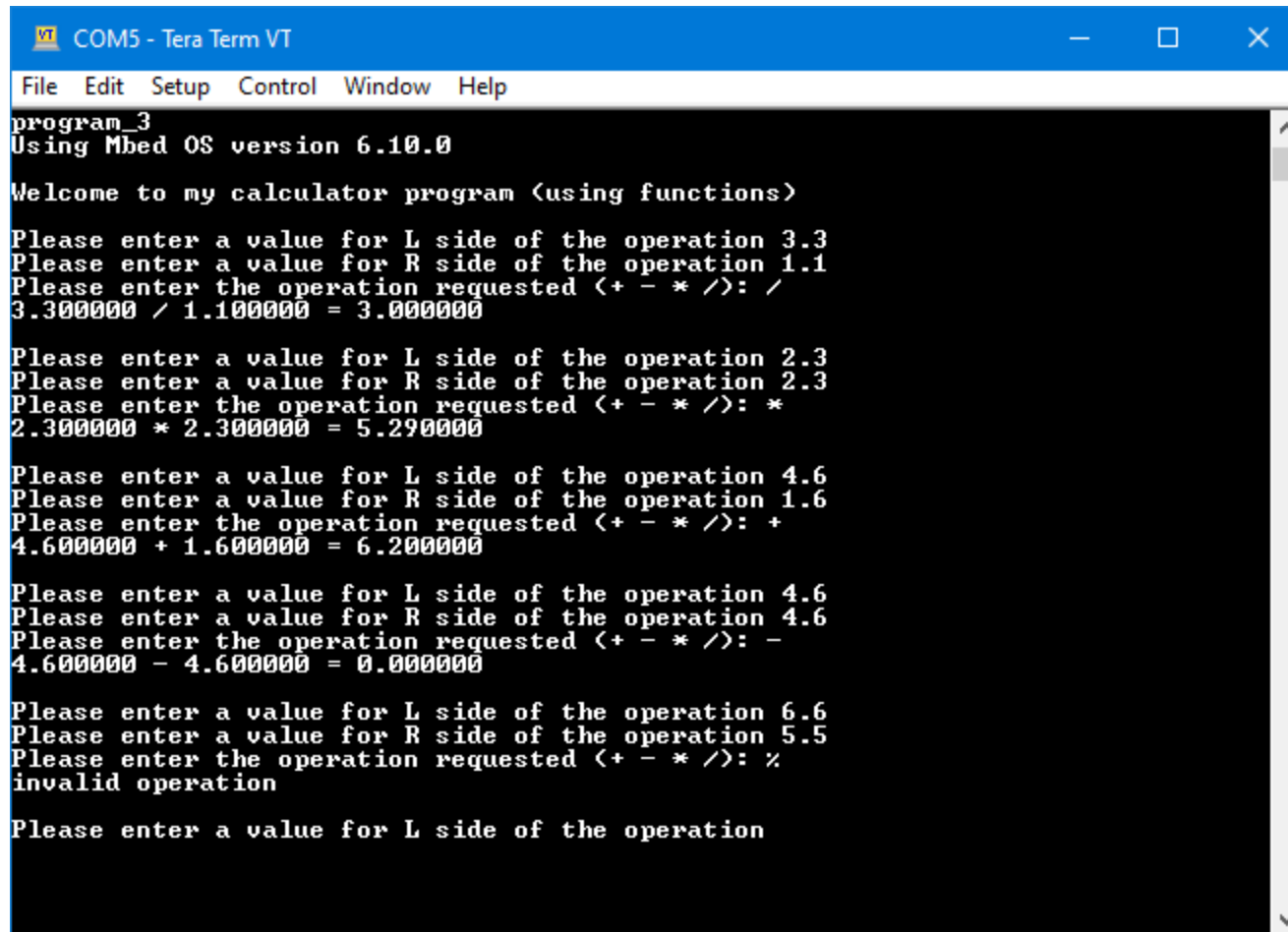
    // infinite loop
    while(1){
        // ask for and read in values and operation
        val1 = get_val('L');
        val2 = get_val('R');
        operation = get_op();

        calc_print_results(val1, val2, operation);
    } // end while

    return 0;
} // end main
```



End up with something like this – check your values!



```
COM5 - Tera Term VT
File Edit Setup Control Window Help
program_3
Using Mbed OS version 6.10.0

Welcome to my calculator program (using functions)

Please enter a value for L side of the operation 3.3
Please enter a value for R side of the operation 1.1
Please enter the operation requested (+ - * /): /
3.300000 / 1.100000 = 3.000000

Please enter a value for L side of the operation 2.3
Please enter a value for R side of the operation 2.3
Please enter the operation requested (+ - * /): *
2.300000 * 2.300000 = 5.290000

Please enter a value for L side of the operation 4.6
Please enter a value for R side of the operation 1.6
Please enter the operation requested (+ - * /): +
4.600000 + 1.600000 = 6.200000

Please enter a value for L side of the operation 4.6
Please enter a value for R side of the operation 4.6
Please enter the operation requested (+ - * /): -
4.600000 - 4.600000 = 0.000000

Please enter a value for L side of the operation 6.6
Please enter a value for R side of the operation 5.5
Please enter the operation requested (+ - * /): %
invalid operation

Please enter a value for L side of the operation
```