

ASSIGNMENT 3

```
#include <stdio.h>

#include <math.h>

int main() {

    int choice;

    double a, b, result;

    do {

        printf("\nCalculator Menu:\n");

        printf("1. Addition\n");

        printf("2. Subtraction\n");

        printf("3. Multiplication\n");

        printf("4. Division\n");

        printf("5. Logarithm (base e)\n");

        printf("6. Square Root\n");

        printf("7. Exit\n");

        printf("Enter your choice: ");

        scanf("%d", &choice);

        if (choice == 1) {

            printf("Enter two numbers to add: ");

            scanf("%lf %lf", &a, &b);

            result = a + b;

            printf("Result: %.2lf\n", result);

        } else if (choice == 2) {

            printf("Enter two numbers to subtract: ");
```

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scanf("%lf %lf", &a, &b);

result = a - b;

printf("Result: %.2lf\n", result);
} else if (choice == 3) {

    printf("Enter two numbers to multiply: ");

    scanf("%lf %lf", &a, &b);

    result = a * b;

    printf("Result: %.2lf\n", result);
} else if (choice == 4) {

    printf("Enter two numbers to divide: ");

    scanf("%lf %lf", &a, &b);

    if (b != 0) {

        result = a / b;

        printf("Result: %.2lf\n", result);

    } else {

        printf("Error: Division by zero is not allowed.\n");

    }

} else if (choice == 5) {

    printf("Enter a number to find its logarithm (base e): ");

    scanf("%lf", &a);

    if (a > 0) {

        result = log(a);

        printf("Result: %.2lf\n", result);

    } else {

        printf("Error: Logarithm is not defined for zero or negative values.\n");

    }

} else if (choice == 6) {

    printf("Enter a number to find its square root: ");

    scanf("%lf", &a);

    if (a >= 0) {


        result = sqrt(a);
```

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        printf("Result: %.2lf\n", result);
    } else {
        printf("Error: Square root is not defined for negative values.\n");
    }
} else if (choice == 7) {
    printf("Exiting...\n");
} else {
    printf("Invalid choice, please try again.\n");
}
} while (choice != 7);

return 0;
}
```

```
Calculator Menu:
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Logarithm (base e)
6. Square Root
7. Exit
Enter your choice: 1
Enter two numbers to add: 4
5
Result: 9.00

Calculator Menu:
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Logarithm (base e)
6. Square Root
7. Exit
Enter your choice: 2
Enter two numbers to subtract: 7
6
Result: 1.00
```



```
Calculator Menu:
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Logarithm (base e)
6. Square Root
7. Exit
Enter your choice: 3
Enter two numbers to multiply: 6
8
Result: 48.00

Calculator Menu:
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Logarithm (base e)
6. Square Root
7. Exit
Enter your choice: 4
Enter two numbers to divide: 8
4
Result: 2.00
```

```
input
Calculator Menu:
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Logarithm (base e)
6. Square Root
7. Exit
Enter your choice: 5
Enter a number to find its logarithm (base e): 9
Result: 2.20

Calculator Menu:
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Logarithm (base e)
6. Square Root
7. Exit
Enter your choice: 8
Invalid choice, please try again.
```

```
input
Calculator Menu:
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Logarithm (base e)
6. Square Root
7. Exit
Enter your choice: 5
Enter a number to find its logarithm (base e): 4
Result: 1.39

Calculator Menu:
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Logarithm (base e)
6. Square Root
7. Exit
Enter your choice: 6
Enter a number to find its square root: 49
Result: 7.00

Calculator Menu:
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Logarithm (base e)
6. Square Root
7. Exit
Enter your choice: 7
Exiting...

...Program finished with exit code 0
Press ENTER to exit console.
```