Assignment 3

#include <stdio.h>

#include <math.h>

// Function declarations

void addition();

void subtraction();

void multiplication();

void division();

void logarithmic\_value();

void square\_root();

int main() {

int choice;

do {

// Menu display

printf("\nSimple Calculator\n");

printf("1. Addition\n");

printf("2. Subtraction\n");

printf("3. Multiplication\n");

printf("4. Division\n");

printf("5. Logarithmic values\n");

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

printf("7. Exit\n");

printf("Enter your choice: ");

scanf("%d", &choice);

switch(choice) {

case 1: addition(); break;

case 2: subtraction(); break;

case 3: multiplication(); break;

case 4: division(); break;

case 5: logarithmic\_value(); break;

case 6: square\_root(); break;

case 7: printf("Exiting the program. Goodbye!\n"); break;

default: printf("Invalid choice. Please try again.\n");

}

} while (choice != 7);

return 0;

}

// Function definitions

void addition() {

double a, b;

printf("Enter two numbers: ");

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

printf("Result: %.2lf\n", a + b);

}

void subtraction() {

double a, b;

printf("Enter two numbers: ");

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

printf("Result: %.2lf\n", a - b);

}

void multiplication() {

double a, b;

printf("Enter two numbers: ");

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

printf("Result: %.2lf\n", a \* b);

}

void division() {

double a, b;

printf("Enter two numbers: ");

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

if (b != 0)

printf("Result: %.2lf\n", a / b);

else

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

}

void logarithmic\_value() {

double a;

printf("Enter a number: ");

scanf("%lf", &a);

if (a > 0)

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

else

printf("Error: Logarithm of non-positive numbers is undefined.\n");

}

void square\_root() {

double a;

printf("Enter a number: ");

scanf("%lf", &a);

if (a >= 0)

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

else

printf("Error: Square root of negative numbers is not real.\n");

}

Output:

