#include <stdio.h>

#include <math.h>

void addition() {

double a, b;

printf("Enter two numbers: ");

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

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

}

void subtraction() {

double a, b;

printf("Enter two numbers: ");

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

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

}

void multiplication() {

double a, b;

printf("Enter two numbers: ");

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

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

}

void division() {

double a, b;

printf("Enter two numbers: ");

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

if (b != 0)

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

else

printf("Error! Division by zero.\n");

}

void logarithm() {

double a;

printf("Enter a number: ");

scanf("%lf", &a);

if (a > 0)

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

else

printf("Error! Logarithm of non-positive number.\n");

}

void squareRoot() {

double a;

printf("Enter a number: ");

scanf("%lf", &a);

if (a >= 0)

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

else

printf("Error! Square root of negative number.\n");

}

int main() {

int choice;

do {

printf("\nSimple Calculator Menu:\n");

printf("1. Addition\n");

printf("2. Subtraction\n");

printf("3. Multiplication\n");

printf("4. Division\n");

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

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

printf("7. Exit\n");

printf("Enter your choice (1-7): ");

scanf("%d", &choice);

switch (choice) {

case 1: addition(); break;

case 2: subtraction(); break;

case 3: multiplication(); break;

case 4: division(); break;

case 5: logarithm(); break;

case 6: squareRoot(); break;

case 7: printf("Exiting the calculator.\n"); break;

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

}

} while (choice != 7);

return 0;

}