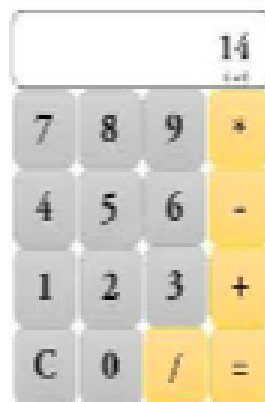


Assignment-3 (FOCP-1)

Assignment 3

Simple Calculator is a C language-based application used for performing all the simple arithmetic operations like addition, multiplication, division, and subtraction. The application can be made using basic knowledge of C like if-else statements, loops, etc.



The functionalities of the application are mentioned below:

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Logarithmic values
6. Square roots

```

void displayMenu() {
    printf("Simple Calculator \n");
    printf("-----\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("Choose an option \n");
}

int main() {
    int choice;
    double num1, num2, result;

    do {
        displayMenu();
        scanf("%d\n", &choice);

        switch (choice) {
            case 1: // Addition
                printf("Enter two numbers: \n");
                scanf("%lf %lf", &num1, &num2);
                result = num1 + num2;
                printf("Result: %.2lf\n", result);
                break;

            case 2: // Subtraction
                printf("Enter two numbers: ");
                scanf("%lf %lf", &num1, &num2);
                result = num1 - num2;
                printf("Result: %.2lf\n", result);
                break;

            case 3: // Multiplication
                printf("Enter two numbers: ");
                scanf("%lf %lf", &num1, &num2);
                result = num1 * num2;
                printf("Result: %.2lf\n", result);
                break;

```

```

case 4: // Division
    printf("Enter two numbers: ");
    scanf("%f %f", &num1, &num2);
    if (num2 != 0) {
        result = num1 / num2;
        printf("Result: %.2f\n", result);
    } else {
        printf("Error: Division by zero is not allowed.\n");
    }
    break;

case 5: // Logarithmic value (base 10)
    printf("Enter a number: ");
    scanf("%f", &num1);
    if (num1 > 0) {
        result = log10(num1);
        printf("Logarithmic value (base 10): %.2f\n", result);
    } else {
        printf("Error: Logarithm undefined for non-positive\n"
               "values.\n");
    }
    break;

case 6: // Square root
    printf("Enter a number: ");
    scanf("%f", &num1);
    if (num1 >= 0) {
        result = sqrt(num1);
        printf("Square root: %.2f\n", result);
    } else {
        printf("Error: Square root of a negative number is not\n"
               "real.\n");
    }
    break;

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

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

```

```
} while (choice != 7);
```

```
return o;
```

```
}
```

```
void displayMenu() {
    printf("Simple Calculator \n");
    printf("-----\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("Choose an option \n");
}

int main() {
    int choice;
    double num1, num2, result;

    do {
        displayMenu();
        scanf("%d\n", &choice);

        switch (choice) {
            case 1: // Addition
                printf("Enter two numbers: \n");
                scanf("%lf %lf", &num1, &num2);
                result = num1 + num2;
                printf("Result: %.2lf\n", result);
                break;

            case 2: // Subtraction
                printf("Enter two numbers: ");
                scanf("%lf %lf", &num1, &num2);
                result = num1 - num2;
                printf("Result: %.2lf\n", result);
                break;

            case 3: // Multiplication
                printf("Enter two numbers: ");
                scanf("%lf %lf", &num1, &num2);
                result = num1 * num2;
                printf("Result: %.2lf\n", result);
                break;

            case 4: // Division
                printf("Enter two numbers: ");
                scanf("%lf %lf", &num1, &num2);
                if (num2 != 0) {
                    result = num1 / num2;
                    printf("Result: %.2lf\n", result);
                } else {
                    printf("Error: Division by zero is not allowed.\n");
                }
                break;
        }
    } while (choice != 7);

    return 0;
}
```

```

case 5: // Logarithmic value (base 10)
    printf("Enter a number: ");
    scanf("%lf", &num1);
    if (num1 > 0) {
        result = log10(num1);
        printf("Logarithmic value (base 10): %.2lf\n", result);
    } else {
        printf("Error: Logarithm undefined for non-positive
        | | "                values.\n");
    }
    break;

case 6: // Square root
    printf("Enter a number: ");
    scanf("%lf", &num1);
    if (num1 >= 0) {
        result = sqrt(num1);
        printf("Square root: %.2lf\n", result);
    } else {
        printf("Error: Square root of a negative number is not
        | | "                real.\n");
    }
    break;

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

default:
    printf("Invalid choice. Please try again.\n");
}
} while (choice != 7);

return 0;
}

```