# SIMPLE CALCULATOR

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**STATEMENT:-** To Create a Simple Calculator Program using the C- Programming Language.

# Algorithm of Calculator Program:

**Step 1:** Declare local variables n1, n2, res, opt. For example, where n1 and n2 take two numeric values, res will store results and opt variable defines the operator symbols.

**Step 2:** Print the Choice (Addition, Subtraction, multiplication, division,etc.)

**Step 3:** Enter the Choice

**Step 4:** Takes two numbers, n1 and n2

**Step 5:** Switch case jump to an operator selected by the user

**Step 6:** Store result into res variable.

**Step 7:** Display the operation result

**Step 8:** Exit from the program.

The different ways to write a Calculator Program in the C language.

1. Calculator Program in C using the switch statement
2. Calculator Program in C using if else if statement
3. Calculator Program in C using do-while loop and switch statement
4. Calculator Program in C using function and switch statement

In this Mini project that we do, we write the Calculator Program Using the do-while loop and Switch Statement. i.e the 3rd way.

**Program:- Calculator program using do-while loop and switch case statement in C**

```
#include <stdio.h>
#include <math.h> #include
<stdlib.h>

int main()
{
   // declaration of local variable op;
   int op, n1, n2; float res; char ch;
   do
   {
      // displays the multiple operations of the C Calculator printf (" Select an
      operation to perform the calculation in C Calculator: "); printf (" \n 1 Addition
      \t \t 2 Subtraction \n 3 Multiplication \t 4 Division \n 5
Square \t \t 6 Square Root \n 7 Exit \n \n Please, Make a choice ");

      scanf ("%d", &op); // accepts a numeric input to choose the operation

   // use switch statement to call an operation switch
   (op)
```

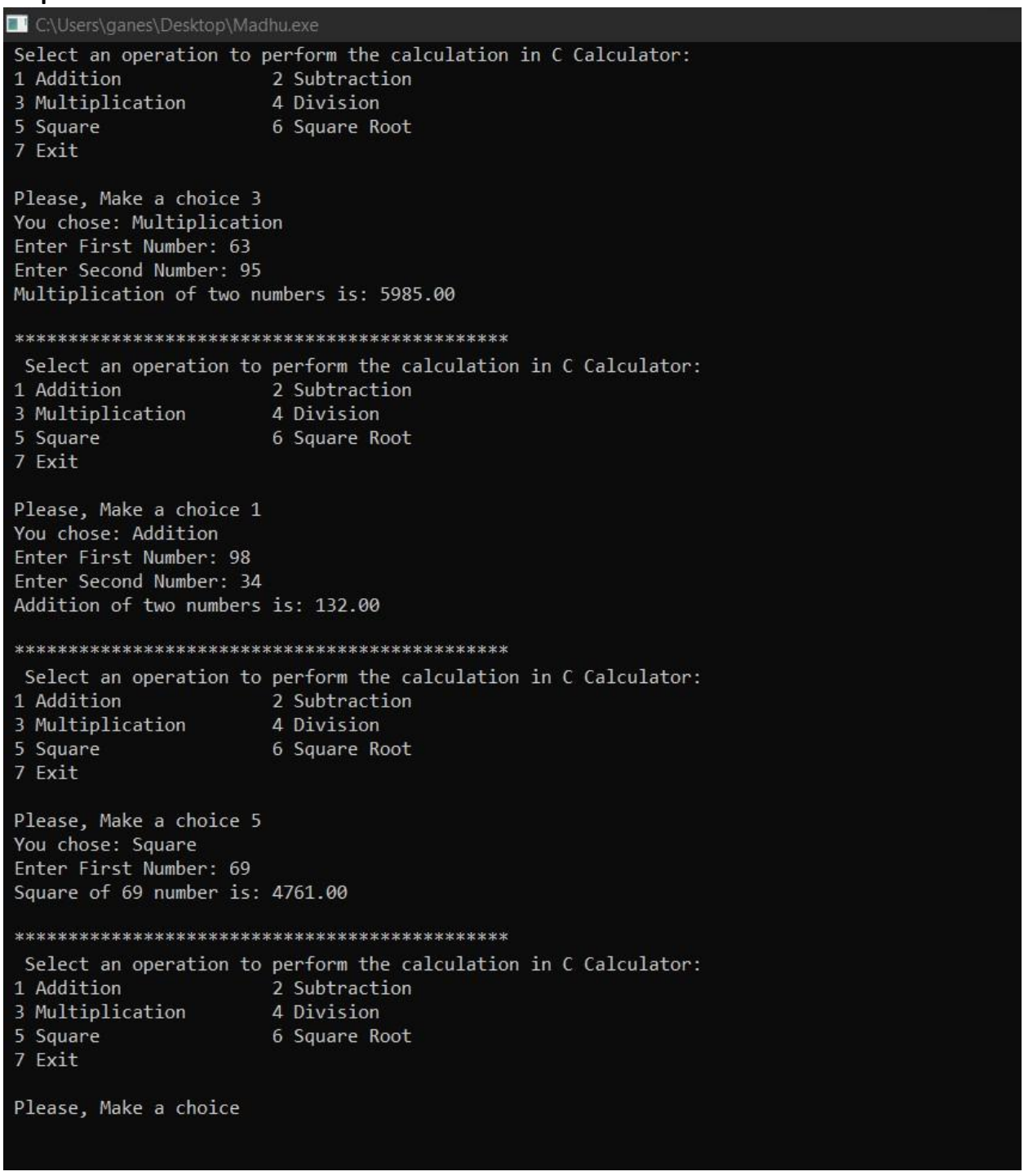
```
{
    case 1:
        // Add two numbers printf (" You chose:
        Addition"); printf ("\n Enter First Number: "); scanf
        (" %d", &n1); printf (" Enter Second Number: ");
        scanf (" %d", &n2); res = n1 + n2; // Add two
        numbers printf (" Addition of two numbers is:
        %.2f", res); break; // break the function

    case 2:
        // Subtract two numbers printf ("
        You chose: Subtraction"); printf
        ("\n Enter First Number: "); scanf ("
        %d", &n1);

        printf (" Enter Second Number: "); scanf (" %d", &n2);
        res = n1 - n2; // subtract two numbers printf ("
        Subtraction of two numbers is: %.2f", res); break; //
        break the function

    case 3:
        // Multiplication of the numbers printf (" You chose:
        Multiplication"); printf ("\n Enter First Number: "); scanf
        (" %d", &n1); printf (" Enter Second Number: "); scanf ("
        %d", &n2); res = n1 * n2; // multiply two numbers printf
```

```
   (" Multiplication of two numbers is: %.2f", res); break; //
   break the function

case 4:
   // Division of the numbers printf ("
   You chose: Division"); printf ("\n
   Enter First Number: "); scanf (" %d",
   &n1); printf (" Enter Second
   Number: "); scanf (" %d", &n2); if
   (n2 == 0)
      { printf (" \n Divisor cannot be zero. Please enter another value "); scanf
         ("%d", &n2);
      }
   res = n1 / n2; // divide two numbers printf ("
   Division of two numbers is: %.2f", res); break; //
   break the function

case 5:
   // getting square of a number printf
   (" You chose: Square"); printf ("\n
   Enter First Number: "); scanf (" %d",
   &n1);
```

```
        res = n1 * n1; // get square of a number printf ("
        Square of %d number is: %.2f", n1, res); break; //
        break the function

    case 6:
        // getting the square root of the number
        printf (" You chose: Square Root"); printf
        ("\n Enter First Number: "); scanf (" %d",
        &n1);

        res = sqrt(n1); // use sqrt() function to find the Square Root
        printf (" Square Root of %d numbers is: %.2f", n1, res); break; //
        break the function

    case 7:
        printf (" You chose: Exit");
        exit(0); break; // break the
        function

    default: printf(" Something is
        wrong!! "); break;
} printf (" \n \n
********************************************** \n ");
} while (op != 7);
```

```
    return 0;

}
```

**Output:-**



```
C:\Users\ganes\Desktop\Madhu.exe
Select an operation to perform the calculation in C Calculator:
1 Addition              2 Subtraction
3 Multiplication        4 Division
5 Square                6 Square Root
7 Exit

Please, Make a choice 3
You chose: Multiplication
Enter First Number: 63
Enter Second Number: 95
Multiplication of two numbers is: 5985.00

*********************************************
 Select an operation to perform the calculation in C Calculator:
1 Addition              2 Subtraction
3 Multiplication        4 Division
5 Square                6 Square Root
7 Exit

Please, Make a choice 1
You chose: Addition
Enter First Number: 98
Enter Second Number: 34
Addition of two numbers is: 132.00

*********************************************
 Select an operation to perform the calculation in C Calculator:
1 Addition              2 Subtraction
3 Multiplication        4 Division
5 Square                6 Square Root
7 Exit

Please, Make a choice 5
You chose: Square
Enter First Number: 69
Square of 69 number is: 4761.00

*********************************************
 Select an operation to perform the calculation in C Calculator:
1 Addition              2 Subtraction
3 Multiplication        4 Division
5 Square                6 Square Root
7 Exit

Please, Make a choice
```

**Result:-** Hence we created a Simple Calculator Program using the do-while loop and switch case statement in C.