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
```

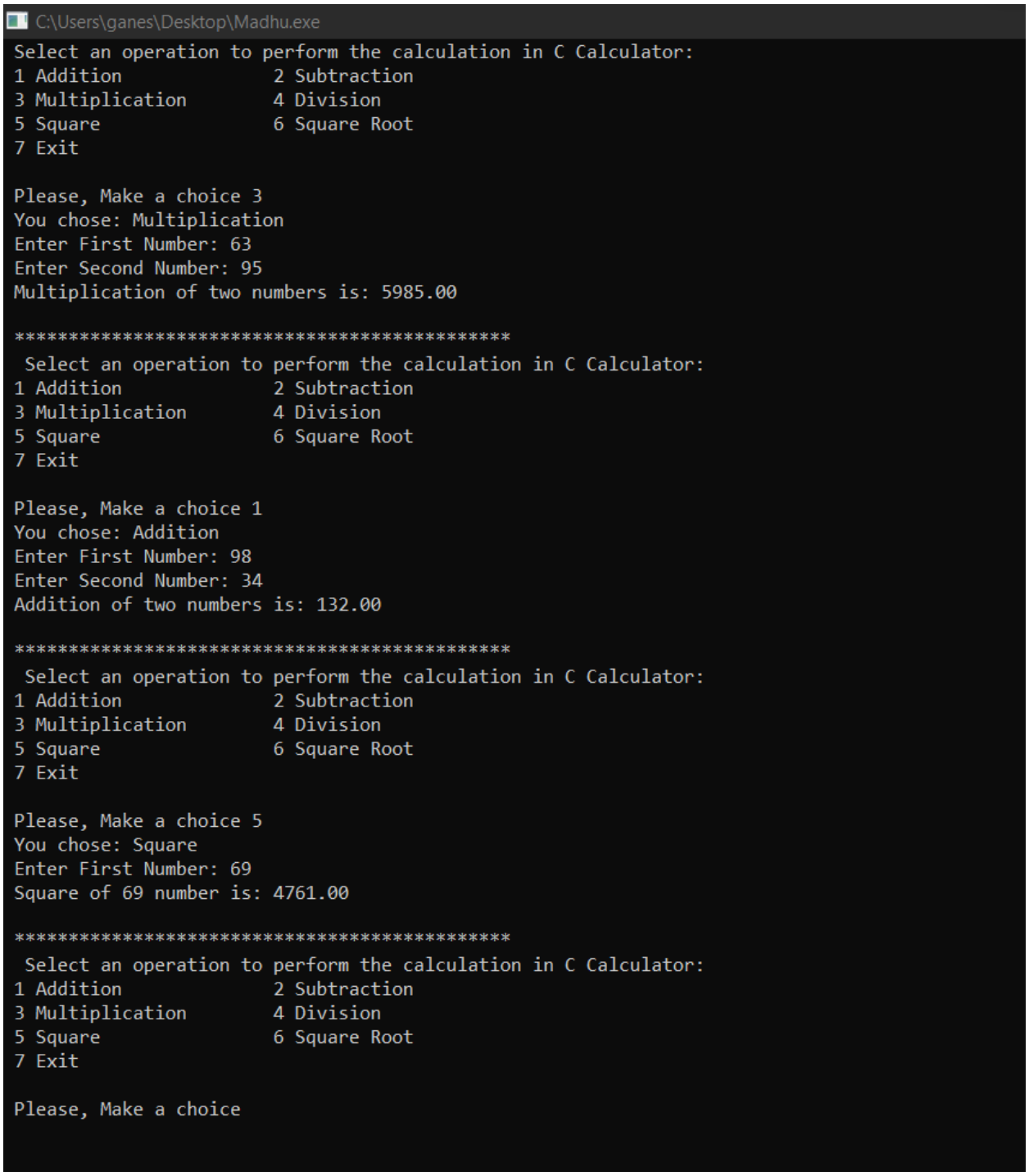
```
            printf (" Square Root of %d numbers is: %.2f", n1, res);
            break; // break the function

        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.