

Experiment :2B

SIMPLE CALCULATOR

ALGORITHM

Step 1: Start

Step 2: Declare and define functions add, subtract, multiply and divide

Step 3: Declare variables num1, num2, ans and c.

Step 4: Read values num1, num2 and arithmetic operation.

Step 5: Read arithmetic operation.

 case '+' – call “add” function using pointers which returns
(ans=num1+num2)

 case '-' – call “subtract” function using pointers which
returns (ans=num1-num2)

 case '*' – call “multiply” function using pointers which
returns (ans=num1*num2)

 case '/' – call “divide” function using pointers which return
(ans=num1/num2)

Step 6: Display result

Step 7: Stop

Code:-

```
#include<stdio.h>

void display(float s);
float add(int x,int y);
float subtract(int x,int y);
float multiply(int x,int y);
float divide(int x,int y);
int main()
{
    int a,b;
    float ans;
    unsigned char c;
    while(1)
    {

        printf("enter the two numbers separating with single space:"); //get the two numbr
        scanf("%d%d",&a,&b);
        printf("enter the arithmetic operation (+,-,*,/):");
        scanf(" %c",&c);
        float (*ptr_op)(int,int);
        void (*ptr_disp)(float);
        ptr_disp=display;

        switch(c)
        {
            case '+':ptr_op=add;
```

```

        break;
        case '-':ptr_op=subtract;
        break;
        case '*':ptr_op=multiply;
        break;
        case '/':ptr_op=divide;
        break;
default:printf("invalid operator");

    }

ans=(*ptr_op)(a,b);
    (*ptr_disp)(ans);
}
return 0;

}

void display(float s)           //display the result
{
printf("\nAns: %f\n",s);
}

float add(int x,int y)          //function to perform addition of two numbers
{
    return (x+y);
}

float subtract(int x,int y)      //function to perform subtraction of two numbers

```

```
{
    return x-y;
}

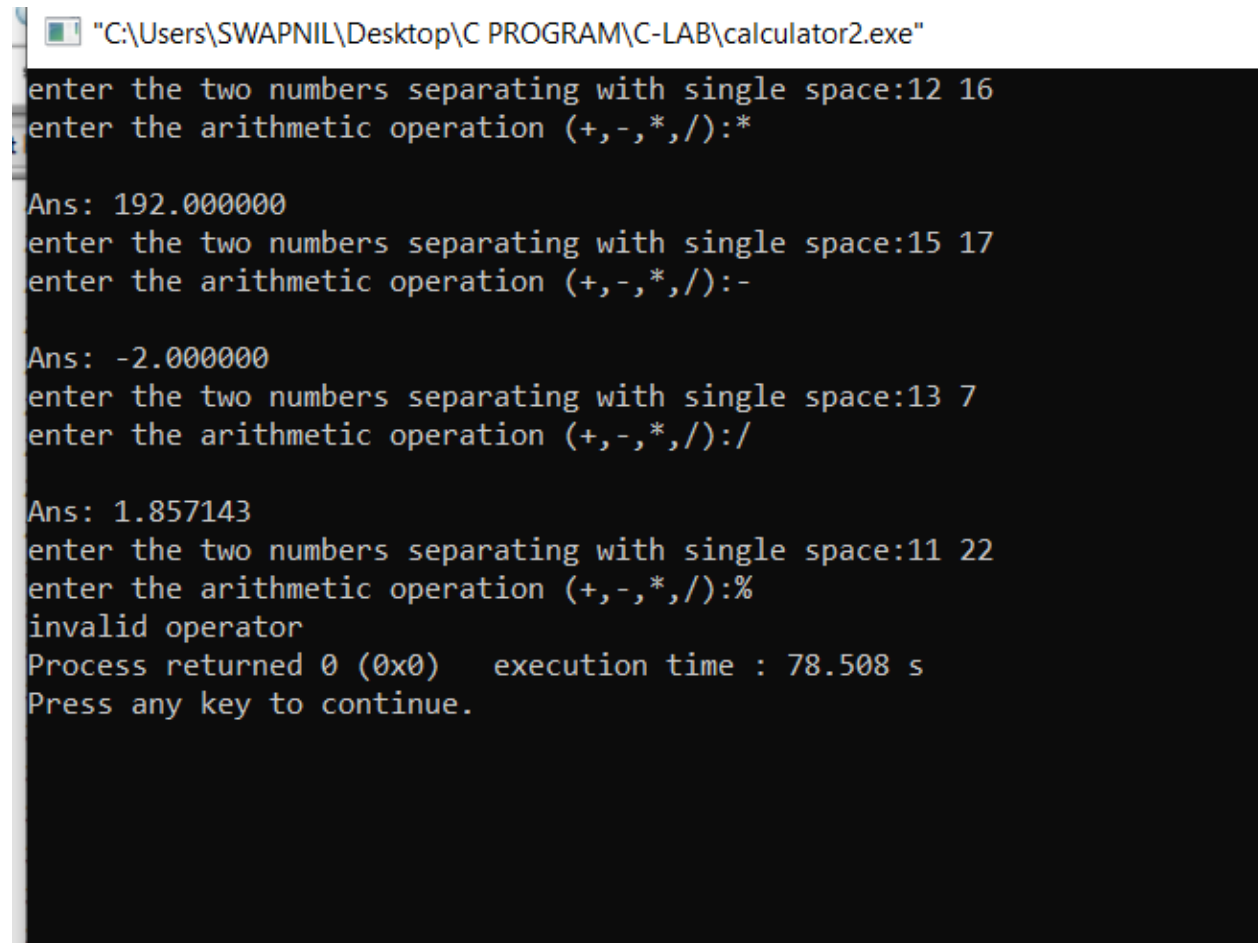
float multiply (int x,int y)    //function to perform multiply of two numbers

{
    return x*y;
}

float divide (int x,int y)    //function to perform division of two numbers

{
    if (y!=0)
        return (float)x/y;
    else return 0.0;
}
```

OUTPUT:-



```
"C:\Users\SWAPNIL\Desktop\C PROGRAM\C-LAB\calculator2.exe"
enter the two numbers separating with single space:12 16
enter the arithmetic operation (+,-,*,/):*
Ans: 192.000000
enter the two numbers separating with single space:15 17
enter the arithmetic operation (+,-,*,/):-
Ans: -2.000000
enter the two numbers separating with single space:13 7
enter the arithmetic operation (+,-,*,/):/
Ans: 1.857143
enter the two numbers separating with single space:11 22
enter the arithmetic operation (+,-,*,/):%
invalid operator
Process returned 0 (0x0)   execution time : 78.508 s
Press any key to continue.
```