Experiment :-2A

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 which returns (ans=num1+num2)
Case '-' – call "subtract" function which returns (ans=num1-num2)
Case '*' – call "multiply" function which returns (ans=num1*num2)
Case '/' – call "divide" function which return (ans=num1/num2)
Step 6: Display result
Step 7: Stop

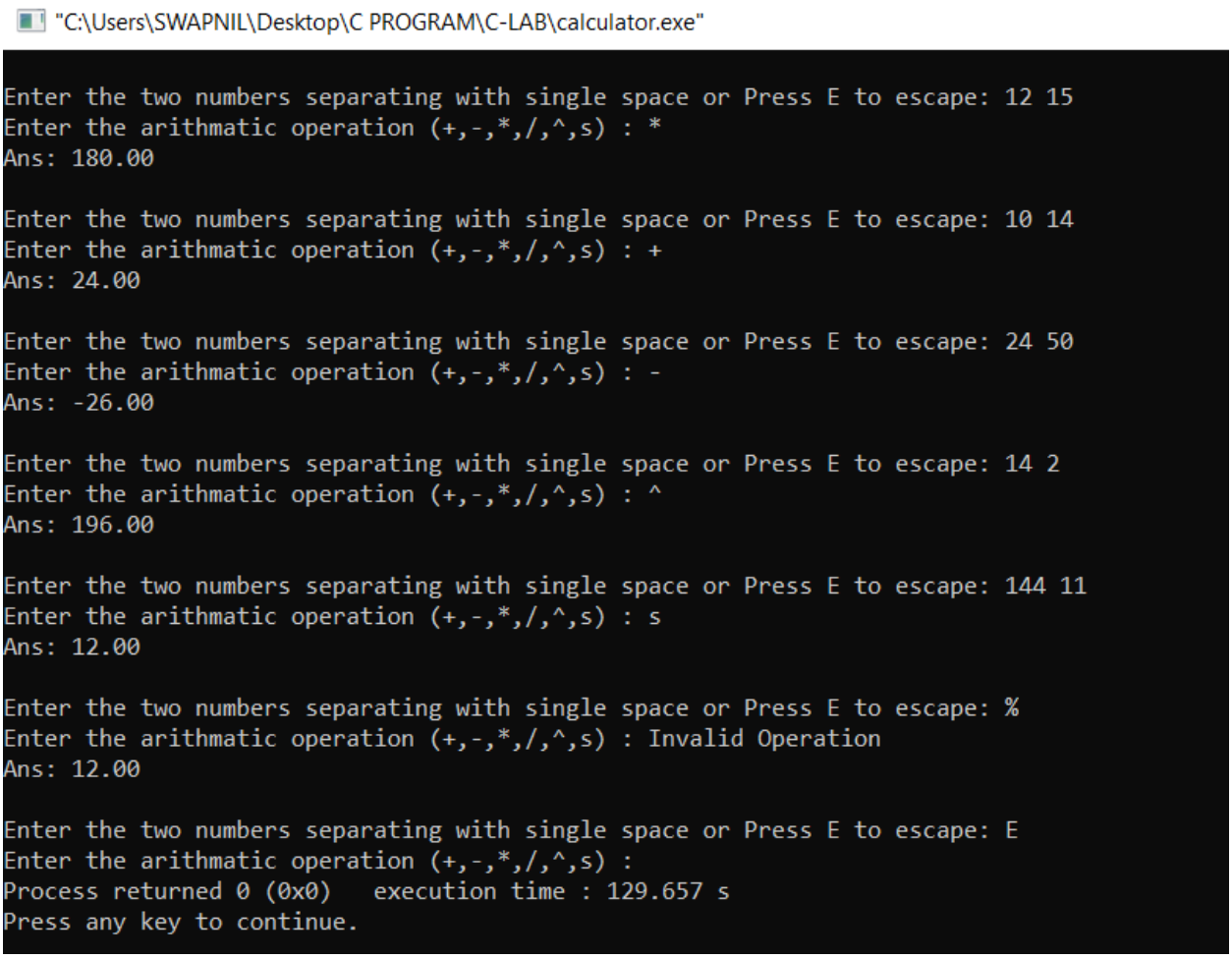
Code:-

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

void display(float s)                          //function to display the result
{
printf("Ans: %.2f \n",s);
}

float add(int x,int y)                        //function to add two number
{
   return x+y;
}

float subtract(int x, int y)                   //function to subtract two number
{
   return x-y;
}

float multiply(int x,int y)                    //function to multiply two number
{
   return x*y;
}

float divide(int x,int y)                      //function to divide two number
{
```

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

float power(int x,int y)                //function to implement power of number
{
   return pow(x,y);
}

float squareroot(int x)              //function to evaluate squaroot of a number
{
   return sqrt(x);
}

int main()
{
int a,b;
   float ans;
   unsigned char c;
while(1)
   {
printf("\nEnter the two numbers separating with single space or Press E to escape: ");
scanf("%d %d", &a,&b);
printf("Enter the arithmatic operation (+,-,*,/,^,s) : ");
scanf(" %c",&c);
   switch(c)                                  //case statement to perform different arithmetic optn
         {
```

```
            case '+': ans=add(a,b);
                      break;
            case '-': ans=subtract(a,b);
                      break;
            case '*': ans=multiply(a,b);
                      break;
            case '/': ans=divide(a,b);
                      break;
            case '^': ans=power(a,b);
                      break;
            case 's': ans=squareroot(a,b);
                      break;
            case 'e': exit(0);
            default: printf("Invalid Operation\n");
          }
    display(ans);
    }
    return 0;
}
```

OUTPUT:-


"C:\Users\SWAPNIL\Desktop\C PROGRAM\C-LAB\calculator.exe"
Enter the two numbers separating with single space or Press E to escape: 12 15
Enter the arithmatic operation (+,-,*,/,^,s) : *
Ans: 180.00
Enter the two numbers separating with single space or Press E to escape: 10 14
Enter the arithmatic operation (+,-,*,/,^,s) : +
Ans: 24.00
Enter the two numbers separating with single space or Press E to escape: 24 50
Enter the arithmatic operation (+,-,*,/,^,s) : -
Ans: -26.00
Enter the two numbers separating with single space or Press E to escape: 14 2
Enter the arithmatic operation (+,-,*,/,^,s) : ^
Ans: 196.00
Enter the two numbers separating with single space or Press E to escape: 144 11
Enter the arithmatic operation (+,-,*,/,^,s) : s
Ans: 12.00
Enter the two numbers separating with single space or Press E to escape: %
Enter the arithmatic operation (+,-,*,/,^,s) : Invalid Operation
Ans: 12.00
Enter the two numbers separating with single space or Press E to escape: E
Enter the arithmatic operation (+,-,*,/,^,s) :
Process returned 0 (0x0) execution time : 129.657 s
Press any key to continue.