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# Computer Organization and Assembly Language Lab

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# Calculator

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## Abstract

We are going to make a basic calculator using emu8086.inc in which there will be all arithmetic operation like addition, subtraction, multiplication and division etc , also include logics of cube and square as well as logic for converting fahrenheit to celsius and celsius to fahrenheit.

## Objective

- To perform basic arithmetic operation of a calculator using emu8086.
- To perform a number of calculations in response to user input.
- Calculators help us in many mathematical calculations and are really helpful for someone and save time of the user or a person.

## Problem statement

If we will do calculations by ourselves it will take a lot of time and the chances of error are sure because humans can't perform calculations like computers or machine devices. When we use a calculator there are no chances of error and also save a lot of time.

## Methodology

We will give users a menu in which the user will choose an operation from the menu and according to the choice in (al) register we will call procedures and then perform the chosen operation and then return back to the main menu after that user can perform another arithmetic

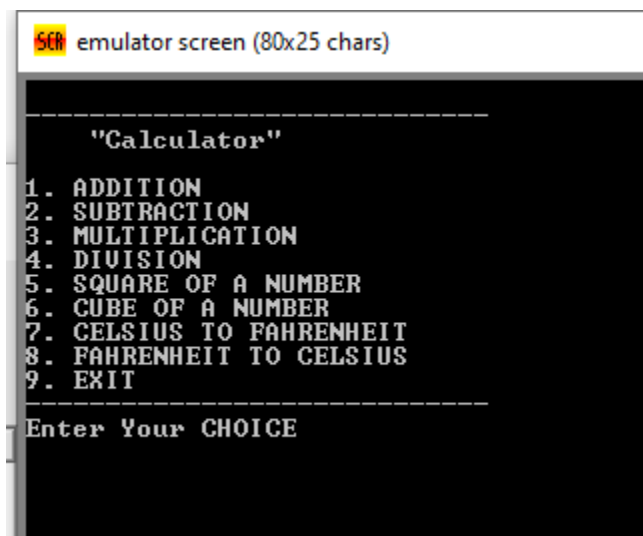
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operation. We will make an individual procedure for each choice in which logic will be written and when we will call that procedure it perform the desire operation and return to main menu.

## Conclusions

While doing this project we have learned a lot of things about assembly language. We have to deal with the compiler and many errors in the project. Now, we also know how to take work from the processor. We have clear our concepts of high level and low level programming languages that how code is compiled from high to low level languages

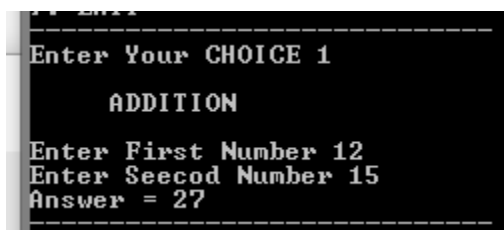
## Project output



```
SCA emulator screen (80x25 chars)

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"Calculator"
1. ADDITION
2. SUBTRACTION
3. MULTIPLICATION
4. DIVISION
5. SQUARE OF A NUMBER
6. CUBE OF A NUMBER
7. CELSIUS TO FAHRENHEIT
8. FAHRENHEIT TO CELSIUS
9. EXIT
-----
Enter Your CHOICE
```

1.



```
-----
Enter Your CHOICE 1

      ADDITION

Enter First Number 12
Enter Seecod Number 15
Answer = 27
-----
```

2.

```
Enter Your CHOICE 2
SUBTRACTION
Enter First Number 56
Enter Seecod Number 34
Answer = 22
```

3.

```
Enter Your CHOICE 3
MULTIPLICATION
Enter First Number 5
Enter Seecod Number 4
Answer = 20
```

4.

```
Enter Your CHOICE 4
DIVISION
Enter First Number 6
Enter Seecod Number 3
Answer = 2
```

5.

```
Enter Your CHOICE 5
SQUARE OF A NUMBER
Enter Number 5
Answer = 25
```

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6.

```
-----  
Enter Your CHOICE 6  
      CUBE OF A NUMBER  
Enter Number 6  
Answer = 216  
-----
```

7.

```
-----  
Enter Your CHOICE 7  
      CELCSIUS TO FAHRENHEIT  
Enter Number 5  
Answer = 41  
-----
```

8.

```
-----  
Enter Your CHOICE 8  
      FAHRENHEIT TO CELSIUS  
Enter Number 41  
Answer = 5  
-----
```

9.

```
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Enter Your CHOICE 9  
Exit Sucessfully  
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```