LAB 04

Task no. 01

Write a C program that solves a simple user-entered mathematical expression. It should take input from the user (two floating type values and operations like *, /, + and -), calculate the result and show it on screen.

e.g. if the user inputs "5 + 6" the program should add numbers 5 and 6 and print the answer 11 on to the console.

Pre-requisites: understanding of '***int***', '***char***' and '***float***' type variables in C.

Use format specifiers '%f' for 'float'; '%d' for 'int' and '%c' for 'char' type variables).

Task no. 02(a)

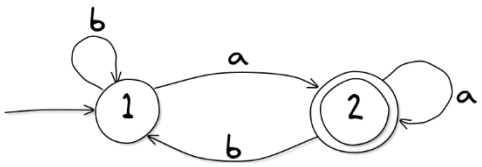
Following program prints a menu. It then takes input from user and displays the entered choice. Type-in the C program given below into a new project, compile and run to see how it works..

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

int main()
{
    int choice=0;
    while(choice!=4)
    {
     printf("\n\tMENU DEMONSTRATION");
     printf("\n\t------------------------------");
     printf("\n\n\t 1. OPTION 1");
     printf("\n\t 2. OPTION 2");
     printf("\n\t 3. OPTION 3");
     printf("\n\t 4. EXIT");
     printf("\n\n Enter Your Choice: ");
     scanf("%d",&choice);
     switch(choice)
     {
      case 1:
                   printf("\nYOU SELECTED OPTION %d",choice);
                   break;
      case 2:
                   printf("\nYOU SELECTED OPTION %d",choice);
                   break;
      case 3:
                   printf("\nYOU SELECTED OPTION %d",choice);
                   break;
      case 4:
                   printf("\nYOU SELECTED OPTION %d",choice);
                   exit(0);
      default:
                  printf("\nINVALID SELECTION...Please try again");
      }
      getchar();
    }
}
```

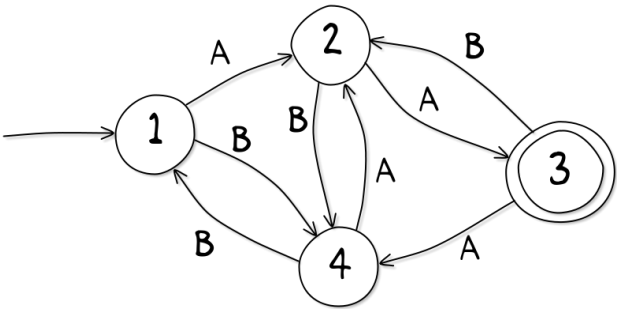
Task no. 02(b)

Modify the above program to implement following sate machine. Here ***'a'*** and ***'b'*** are user input characters. The program should print out appropriate messages to the console when a user enters a character.



Post Lab Task

Write a C program to implement the following state machine.



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