```c
/*
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Lab #3
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Description: This program create a simulation of a calculator that supports the 5 basic operations and primality testing.
*/

#include<stdio.h>
void main()
{
        int add(),sub(),mult(),div(),mod(),testprime();
        // setting up the 6 functions
        int o,l=1;
        while(l)
         // Loop expression that never become false
{

        printf("\n\n Please choose an option from the following: \n1)Addition \n2)Subtraction \n3)Multiplication \n4)Division \n5)Modulus \n6)
TestPrime \n7)Exit ");
        scanf("%d",&o);
        switch(o)
{

        case 1:
        add();
        break;
        // calling addition function

        case 2:
        sub();
        break;
        // calling subtraction function

        case 3:
        mult();
        break;
        // calling multiplication function

        case 4:
        div();
        break;
        // calling division function

        case 5:
        mod();
        break;
        // calling modulus function

        case 6:
        testprime();
        break;
        // calling test prime function

default:
l=0;
printf("Good Bye! \n");
break;
// Terminates the program due to the loop
}
}
}
int add() // Addition function
{
        int a,b,c;
        printf("Enter 1st number: \n");
        scanf("%d",&a);
        printf("Enter 2nd number: \n");
        scanf("%d",&b);
        c=a+b;
        printf("%d + %d = %d",a,b,c);
        getchar();
        return(0);

}
int sub() // Subtraction function
{
    int a,b,c;
        printf("Enter 1st number: \n");
        scanf("%d",&a);
        printf("Enter 2nd number: \n");
        scanf("%d",&b);
        c=a-b;
        printf("%d - %d = %d",a,b,c);
        getchar();
        return(0);
}
int mult() // Multiplication function
```

```c
{
        int a,b,c;
        printf("Enter 1st number: \n");
        scanf("%d",&a);
        printf("Enter 2nd number: \n");
        scanf("%d",&b);
        c=a*b;
        printf("%d X %d = %d",a,b,c);
        getchar();
        return(0);
}
int div() // Division function
{
        int a,b,c;
        printf("Enter 1st number: \n");
        scanf("%d",&a);
        printf("Enter 2nd number: \n");
        scanf("%d",&b);
        c=a/b;
        printf("%d / %d = %d",a,b,c);
        getchar();
        return(0);
}
int mod() // Modulus function
{
    int a, b, d=0;
    printf("Please enter first number : ");
    scanf("%d", &a);
    printf("Please enter second number : ");
    scanf("%d", &b);
    d=a%b;
    printf("Modulus of entered numbers = %d",d);
        getchar();
        return(0);
}
int testprime() //Test prime function
{
        int n, i, flag=0;
        printf("Enter a positive integer: ");
        scanf("%d",&n);
        for(i=2;i<=n/2;++i)
{

    if(n%i==0)
    {
        flag=1;
        break;
    }
}
if (flag==0)
    printf("%d is a prime number.",n);
else
    printf("%d is not a prime number.",n);

        getchar();
        return(0);
}
```