PPS MINI PROJECT

SIMPLE CALCULATOR

DONE BY:

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The purpose of this program is to quickly calculate numbers . This program would be able to perform operations such as addition, subtraction, multiplication, division, power of a number, finding remainders etc.

In this program we have used structure, switch cases, while loop, functions.

The program is divided into two parts:

Getting input of the following details from user:

1) Operator to be used
    - +(addition)
    - –(subtraction)
    - *(multiplication)
    - /(division)
    - ?(modulus)
    - ^(power)
2) Numbers to calculate. User will input the numbers using the interface

Results will be displayed on the screen.

This calculation can be done multiple times. If the user wants to calculate again they can clear the screen using the character c and calculate.

CODE:

```
// Calculator example using C code
#include<stdio.h>
#include<conio.h>
#include<math.h>
#include<stdlib.h>

#define KEY "Enter the calculator Operation you want to do:"

// Function prototype declaration
void addition();
void subtraction();
void multiplication();
void division();
void modulus();
void power();
void calculator_operations();

struct display
{
char disp1[50];
char disp2[50];
char disp3[50];
};

// Start of Main Program
int main()
{
    int X=1;
    char Calc_oprn;
```

```
    struct display st1={"***********************************************", "Simple Calculator",
"***********************************************"};
    system("clear");
    printf("\n %s \n %s \n %s", st1.disp1, st1.disp2, st1.disp3);
    getch();

    // Function call

    calculator_operations();

    while(X)
    {
        printf("\n");
        printf("%s", KEY);

//      Calc_oprn = getch();
        scanf("%c", &Calc_oprn);

        switch(Calc_oprn)
        {
            case '+': addition();
                    break;

            case '-': subtraction();
                    break;

            case '*': multiplication();
                    break;

            case '/': division();
                    break;

            case '?': modulus();
```

```
                    break;

            case '^': power();
                    break;

            case 'Q':
            case 'q': exit(0);
                    break;

            case 'c':
            case 'C':
                system("clear");
                    calculator_operations();
                    break;

            default :
            system("clear");
            calculator_operations();

        }
    }
return 0;
}

//Function Definitions

void calculator_operations()
{
    system("clear");
    printf("\n              Welcome to C calculator \n\n");
    printf("******* Press 'Q' or 'q' to quit ");
    printf("the program ********\n");
```

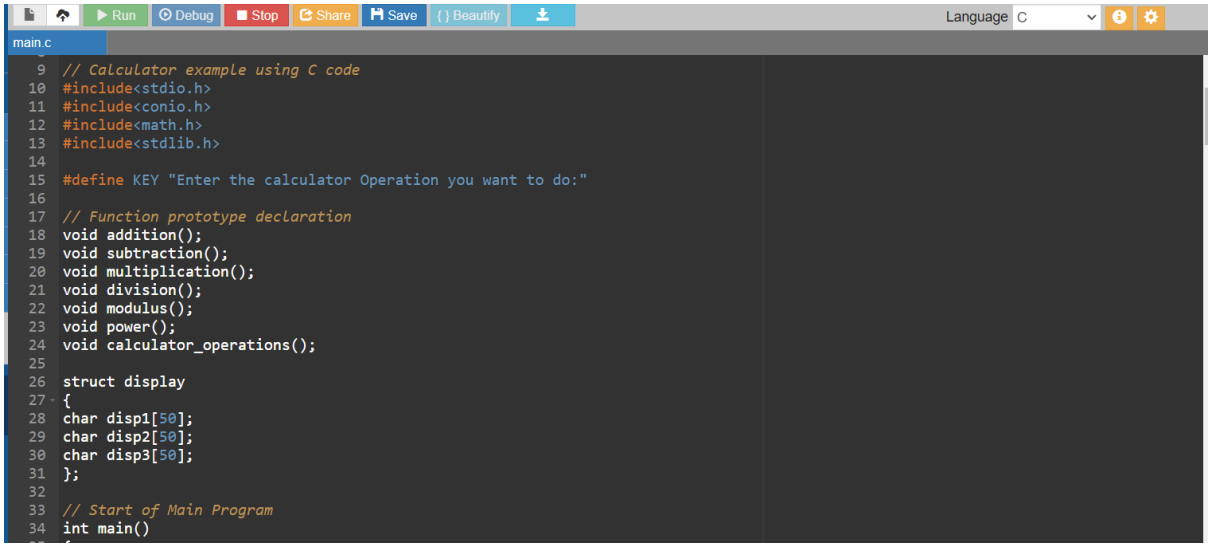
```
    printf("Enter 'C' or 'c' to clear the screen and");
    printf(" display available option \n\n");

    printf("Enter + symbol for Addition \n");
    printf("Enter - symbol for Subtraction \n");
    printf("Enter * symbol for Multiplication \n");
    printf("Enter / symbol for Division \n");
    printf("Enter ? symbol for Modulus\n");
    printf("Enter ^ symbol for Power \n\n");
}

void addition()
{
    int n, total=0, k=0, number;
    printf("\nEnter the number of elements you want to add:");
    scanf("%d", &n);
    printf("Please enter %d numbers one by one: \n",n);
    while(k<n)
    {
        scanf("%d",&number);
        total=total+number;
        k=k+1;
    }
    printf("Sum of %d numbers = %d \n",n,total);
    printf("Press C or c to clear the screen:");
    scanf("%d",&n);
//    getch();
}

void subtraction()
{
```

```
    int n, a, b, c = 0;
    printf("\nPlease enter first number  : ");
    scanf("%d", &a);
    printf("Please enter second number : ");
    scanf("%d", &b);
    c = a - b;
    printf("\n%d - %d = %d\n", a, b, c);
    printf("Press C or c to clear the screen:");
    scanf("%d",&n);
//  getch();

}

void multiplication()
{
    int n, a, b, mul=0;
    printf("\nPlease enter first number: ");
    scanf("%d", &a);
    printf("Please enter second number: ");
    scanf("%d", &b);
    mul=a*b;
    printf("\nMultiplication of entered numbers = %d\n",mul);
    printf("Press C or c to clear the screen:");
    scanf("%d",&n);
//  getch();
}

void division()
{
    int n, a, b, d=0;
    printf("\nPlease enter first number: ");
    scanf("%d", &a);
```

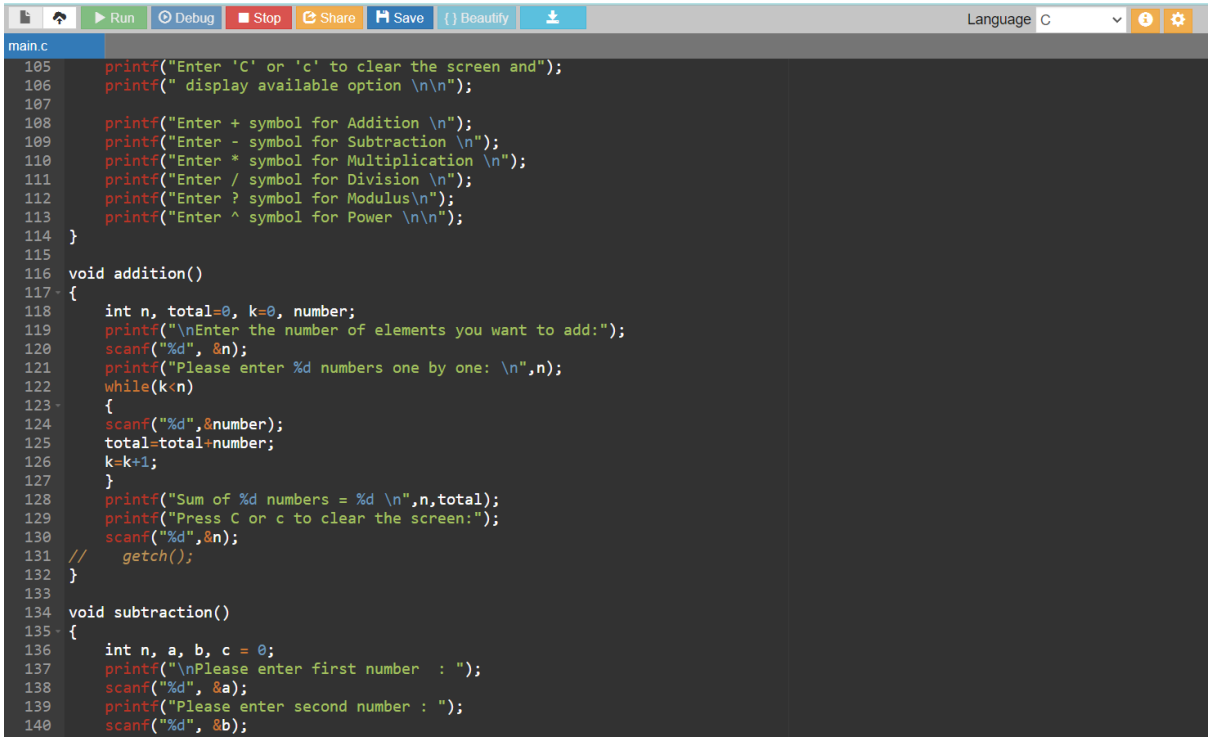
```
    printf("Please enter second number: ");
    scanf("%d", &b);
    d=a/b;
    printf("\nDivision of entered numbers=%d\n",d);
    printf("Press C or c to clear the screen:");
    scanf("%d",&n);
//    getch();

}

void modulus()
{
    int n, a, b, d=0;
    printf("\nPlease enter first number: ");
    scanf("%d", &a);
    printf("Please enter second number: ");
    scanf("%d", &b);
    d=a%b;
    printf("\nModulus of entered numbers = %d\n",d);
    printf("Press C or c to clear the screen:");
    scanf("%d",&n);
//    getch();



}

void power()
{
    double n, a,num, p;
    printf("\nEnter two numbers to find the power \n");
    printf("number: ");
    scanf("%lf",&a);
```

```
    printf("power : ");
    scanf("%lf",&num);

    p=pow(a,num);

    printf("\n%lf to the power %lf = %lf \n",a,num,p);
    printf("Press C or c to clear the screen:");
    scanf("%d",&n);
//    getch();
}
```

ONLINE C COMPLILER:



```
        case '?': modulus();
              break;

        case '^': power();
              break;

        case 'Q':
        case 'q': exit(0);
              break;

        case 'c':
        case 'C':
               system("clear");
              calculator_operations();
              break;

        default :
        system("clear");
        calculator_operations();

    }
    }
return 0;
}

//Function Definitions

void calculator_operations()
{
    system("clear");
    printf("\n            Welcome to C calculator \n\n");
    printf("******* Press 'Q' or 'q' to quit ");
    printf("the program ********\n");

    printf("Enter 'C' or 'c' to clear the screen and");
```



```
    printf("Enter 'C' or 'c' to clear the screen and");
    printf(" display available option \n\n");

    printf("Enter + symbol for Addition \n");
    printf("Enter - symbol for Subtraction \n");
    printf("Enter * symbol for Multiplication \n");
    printf("Enter / symbol for Division \n");
    printf("Enter ? symbol for Modulus\n");
    printf("Enter ^ symbol for Power \n\n");
}

void addition()
{
    int n, total=0, k=0, number;
    printf("\nEnter the number of elements you want to add:");
    scanf("%d", &n);
    printf("Please enter %d numbers one by one: \n",n);
    while(k<n)
    {
    scanf("%d",&number);
    total=total+number;
    k=k+1;
    }
    printf("Sum of %d numbers = %d \n",n,total);
    printf("Press C or c to clear the screen:");
    scanf("%d",&n);
//    getch();
}

void subtraction()
{
    int n, a, b, c = 0;
    printf("\nPlease enter first number  : ");
    scanf("%d", &a);
    printf("Please enter second number : ");
    scanf("%d", &b);
```

main.c

```
    c = a - b;
    printf("\n%d - %d = %d\n", a, b, c);
    printf("Press C or c to clear the screen:");
    scanf("%d",&n);
//  getch();

}

void multiplication()
{
    int n, a, b, mul=0;
    printf("\nPlease enter first number: ");
    scanf("%d", &a);
    printf("Please enter second number: ");
    scanf("%d", &b);
    mul=a*b;
    printf("\nMultiplication of entered numbers = %d\n",mul);
    printf("Press C or c to clear the screen:");
    scanf("%d",&n);
//  getch();
}

void division()
{
    int n, a, b, d=0;
    printf("\nPlease enter first number: ");
    scanf("%d", &a);
    printf("Please enter second number: ");
    scanf("%d", &b);
    d=a/b;
    printf("\nDivision of entered numbers=%d\n",d);
    printf("Press C or c to clear the screen:");
    scanf("%d",&n);
//    getch();

}
```

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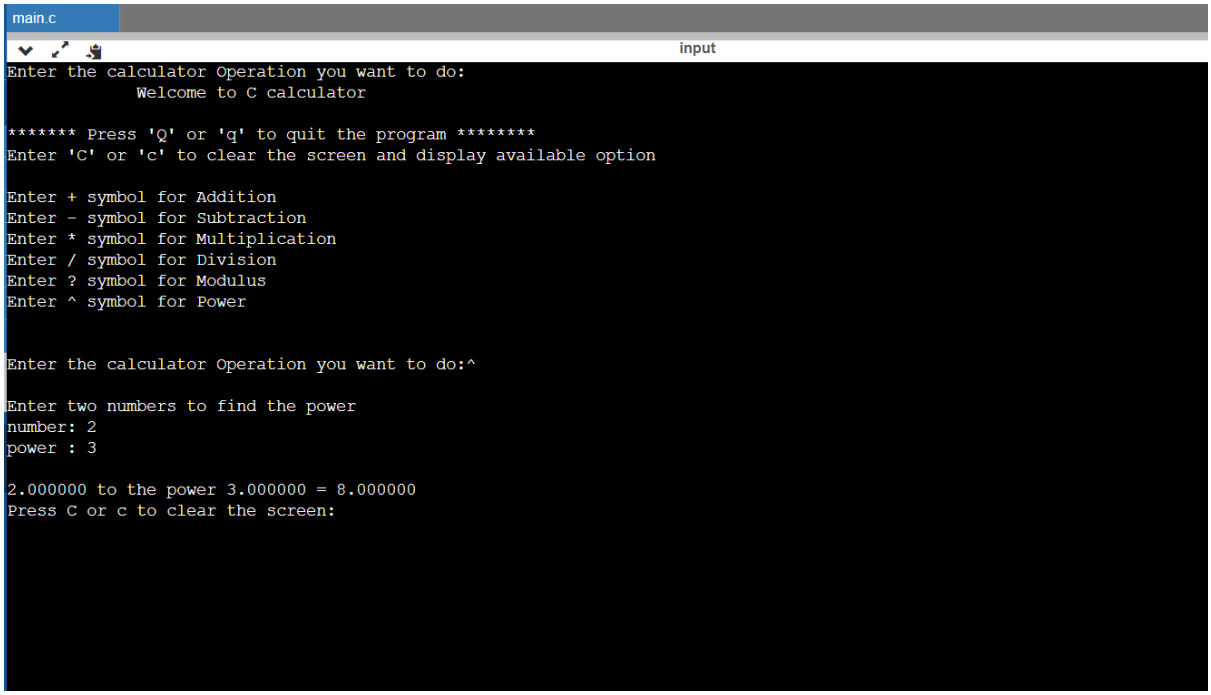
main.c

```

}

void modulus()
{
    int n, a, b, d=0;
    printf("\nPlease enter first number: ");
    scanf("%d", &a);
    printf("Please enter second number: ");
    scanf("%d", &b);
    d=a%b;
    printf("\nModulus of entered numbers = %d\n",d);
    printf("Press C or c to clear the screen:");
    scanf("%d",&n);
//    getch();


}

void power()
{
    double n, a,num, p;
    printf("\nEnter two numbers to find the power \n");
    printf("number: ");
    scanf("%lf",&a);

    printf("power : ");
    scanf("%lf",&num);

    p=pow(a,num);

    printf("\n%lf to the power %lf = %lf \n",a,num,p);
    printf("Press C or c to clear the screen:");
    scanf("%d",&n);
//    getch();
}
```

OUTPUT:



GITHUB LINK:

https://github.com/sruthika16/simple-calculator90-91#simple-calculator90-91