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1BM19CS099

1. Write a menu driven C program to design a simple calculator which solves 10 operations 4 Arithmetic 4 Relational and any two of your choice. The program should loop till the user wishes to stop.

```
#include<stdio.h>
void main()
{
    int a, b, n, x;
    printf("Enter 2 numbers\n");
    scanf("%d %d", &a, &b);
    while (true)
    {
      printf("Enter a number 1-10\n");
      scanf("%d", &n);
      switch(n)
      {
        case 1: printf("Sum = %d", (a+b));
                break;
        case 2: printf("Diff = %d", (a-b));
                break;
        case 3: printf("Product = %d", (a*b));
                break;
        case 4: printf("quotient = %d", (a/b));
                break;
        case 5: printf("remainder = %d", (a%b));
                break;
```

```
case 6: if (a > b)
          printf("%d greater than %d",
                                  a, b);
        else
          printf("%d smaller than %d",
                                  a, b);
        break;
case 7: if (a < b)
          printf("%d smaller than %d",
                                  a, b);
        else
          printf("%d greater than %d",
                                  a, b);
        break;

case 8: if (a == b)
          printf("numbers are equal");
        else
          printf("numbers not equal");
        break;
case 9: if (a != b)
          printf("numbers not equal");
        else
          printf("numbers equal");
        break;
case 10: printf("Squares of numbers\n");
         printf("%d\n", (a*a));
         printf("%d\n", (b*b));
         break;
default: printf("Invalid choice");
}
printf("\n");
```

```
        printf("Enter 0 to exit 1 to continue");
        scanf("%d", &x);
        if(x==0)
            break;
    }
}
```

Output:

```
enter 2 numbers
9 9
enter a number 1-10
5
remainder = 0
enter 0 to exit 1
enter a number 1-10
9
numbers are equal
enter 0 to exit 0
```

2. Write a C program to accept 3 numbers from user. Find the greatest 2 among the 3 and pass them as parameters to the user defined functions given below.
   a. sumaver (...) which finds sum and average of 2 numbers. Print sum and return average.
   b. printeven (...) which prints all the even numbers between the given two numbers.

```
#include<stdio.h>
float sumaver(int , int );
void printeven( int, int);
void main()
{
    int arr[3], n1=0, n2=0;
    printf("Enter 3 numbers \n");
    for(int i=0; i<3; i++)
      scanf("%d", &arr[i]);
    for(int i=0; i<3; i++)
    {   if (arr[i] > n1)
            n1 = arr[i];
    }
    for(int i=0; i<3; i++)
    {   if(arr[i] > n2 && arr[i] < n1)
            n2 = arr[i];
    }
    float avg = sumaver(n1, n2);
    printf("Average = %d \n", avg);
    printeven(n1, n2);
}
```

```
float sumaver(int a, int b)
{
    printf("Sum = %d\n", (a+b));
    float av = (a+b)/2.0;
    return(av);
}
void printeven(int a, int b)
{
    printf("Even numbers:\n");
    if (a%2==0)
    printf("%d\n", a);
    if (b%2==0)
    printf("%d\n", b);
}
```

Enter 3 numbers
11 7 20
Sum = 31
average = 15.5
even numbers:
20