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1.) Write a menu-driven 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>
#include <math.h>
void calculator (int,int);
int main()
{
    int a,b;
    printf("enter two numbers\n");
    scanf("%d%d",&a,&b);
    calculator(a,b);
}
void calculator(int a, int b)
{
    int sum,result,opt;
    float avg;
    printf("1:Add\n2: Subtraction\n3: Multiplica
    -tion\n4: Division\n5: Check Equality
    \n 6: Find greater\n7: Find smaller\n
    8: Check if sum is even or odd\n9:
    Average\n10: To find the squareroot
    of their sum\n");
    printf("Enter your choice\n");
    scanf("%d",&opt);
    while(opt!=0)
    {
        switch(opt)
        {
            case 1: result = a+b;
                    printf("sum is =%d\n",result);
                    break;
```

```
case 2: if (a>b)
        {
            result = a-b;
        }
        else
            result = b-a;
        printf ("subtraction = %d\n", result);
        break;
case 3: result = a*b;
        printf ("Multiplication = %d\n", result);
        break;
case 4: if(a>b)
        {
            result = a/b;
        }
        else
            result = b/a;
        printf ("Division = %d\n", result);
        break;
case 5: if (a==b)
        {
            printf ("They are equal");
        }
        else
            printf ("They are not equal");
        break;
case 6: if (a>b)
        {
            printf ("%d is greater than %d
                    \n", a,b);
        }
        else
        {
            printf ("%d is greater than %d\n",
                    b,a);
        }
        break;
```

```
case 7: if (a<b)
            printf ("%d is smaller than
                    %d \n", a, b);
        else
            printf ("%d is smaller than
                    %d \n", b, a);
        break;
case 8 : sum = a+b;
         if (sum %2 == 0)
            printf ("Sum is even \n");
         else
            printf ("Sum is odd \n");
         break;
case 9 : sum = a+b;
         avg = ((float)(sum))/2;
         printf ("Average = %f \n", avg);
         break;
case 10 : sum = a+b;
          printf ("Square root of the sum =
                  %f \n", sqrt (sum));
          break;
}
printf ("Enter 0 to EXIT or choose an
        option from 1 to 10 \n");

scanf ("%d", &opt);
} // while loop
} // function
```

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2) Write a C program to accept 3 numbers from the user. Find the greater two among the three and pass them as parameter to the user defined functions given below:
a) sumaver (...)
b) printeven (...)

```
#include<stdio.h>
float sumaver(int,int);
void printeven(int,int);
int main()
{
    int a,b,c,g1,g2;
    float avg;
    printf("Enter 3 numbers\n");
    scanf("%d %d %d",&a,&b,&c);
    if(a>b && a>c)
    {
        g1=a;
        g2=b>c?b:c;
    }
    else if(b>c && b>a)
    {
        g1=b;
        g2=a>c?a:c;
    }
    else if(c>a && c>b)
    {
        g1=c;
        g2=a>b?a:b;
    }
    avg=sumaver(g1,g2);
    printf("The average of the two numbers
            are=%f\n",avg);
    printeven(g1,g2);
}
```

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```
float sumaver (int g1, int g2)
{
    float avg;
    printf("The sum of the two numbers are =
                %d\n", (g1+g2));
    avg = ((float)(g1+g2))/2;
    return avg;
}
void printeven (int g1, int g2)
{
    int i, x, y;
    printf("The even numbers b/w are:\n");
    if (g1<g2)
    {
        x=g1;
        y=g2;
    }
    else
    {
        x=g2;
        y=g1;
    }
    for(i=x+1; i<y; i++)
    {
        if(i%2==0)
        {
            printf("%d\n", i);
        }
    }
}
```