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>

int calculator (int, int);

int

main ()

{

  int a, b;

  printf ("Enter the two numbers respectively\n");

  scanf ("%d %d", &a, &b);

  calculator (a, b);

}


int

calculator (int a, int b)

{

  char ch = 'y';

  int sum, sums;

  printf

    ("1:Add” \n ”2:subtract” \n “3:multiply” \n “4:divide” \n “5:check equality” \n “6:find greater” \n “7:find small” \n “8:check if sum is greater than 100” \n “9:all squares between two numbers” \n “10:find sum of square”\n);

  while (ch == 'y')

    {

      int result;

      int op;

      printf ("Enter your choice\n");

      scanf (" %d", &op);

      switch (op)
```

```
{
case 1:
  result = a + b;
  printf ("Result is %d \n", result);
  break;
case 2:
  if (a > b)
    {
      result = a - b;
    }
  else
    {
      result = b - a;
    }
  printf ("Result is %d \n", result);
  break;
case 3:
  result = a * b;
  printf ("Result is %d \n", result);
  break;
case 4:
  result = a / b;
  printf ("Result is %d \n", result);
  break;
case 5:
  if (a == b)
    {
      printf (" they are equal \n");
    }
```

```
  else
   {
    printf ("they are not equal\n");
   }
  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 < 100)
   {
```

```
            printf ("sum is less than 100\n");
          }
         else if (sum == 100)
          {
            printf ("sum is equal to 100\n");
          }
         else
          {
            printf ("sum is greater than 100\n");
          }
         break;
       case 9:
         for (int i = a; i <= b; i++)
          {
            printf ("%d\n", i * i);
          }
         break;
       case 10:
         sums = a * a + b * b;
         printf ("sum of the squares is %d\n", sums);
         break;
       }
printf ("enter N to exit and y to continue\n");
scanf (" %c", &ch);
if (ch == 'N')
       {
         break;
       }
else
```

```
        {
          continue;
        }
    }
}
```

2) Write a C program to accept three numbers from the user. Find the greater two among the three and pass them as parameters to the user defined functions given below.

a) sumaver (…) which finds the sum and average of the two numbers. Print the sum and return the average.

```
#include<string.h>
#include<math.h>
float sumaver (int, int);
void printeven (int, int);
int
main ()
{
  int a, b, c, large, seclarge;
  printf ("Enter three numbers\n");
  scanf ("%d %d %d", &a, &b, &c);
  large = ((a > b) ? ((a > c) ? a : c) : ((b > c) ? b : c));
  if ((a > b || a > c) && (a < large))
    {
      seclarge = a;
    }
  else if (((b > a) || b > c) && (b < large))
    {
      seclarge = b;
    }
```

```
  else
   {
     seclarge = c;
   }
  float avg = sumaver (large, seclarge);
  printf ("Average of first two number is %f\n", avg);
  printeven (large, seclarge);
}

float
sumaver (int a, int b)
{
  int sum = a + b;
  printf ("Sum of two numbers is %d\n", sum);
  float avg = sum / 2;
  return avg;
}

void
printeven (int a, int b)
{
  printf ("Printing all even numbers between a and b\n");
  for (int i = a + 1; i < b; i++)
   {
     if ((i % 2) == 0)
           {
             printf ("Even Numbers %d\n", i);
           }
```

```
   }
}
```

b) **printeven (…)** which prints all the even numbers between the given two numbers

```
#include<stdio.h>
#include<string.h>
#include<math.h>
float sumaver (int, int);
int printeven (int, int);
int
main ()
{
  int a, b, c, large, seclarge;
  printf ("Enter three numbers\n");
  scanf ("%d %d %d", &a, &b, &c);
  large = ((a > b) ? ((a > c) ? a : c) : ((b > c) ? b : c));
  if ((a > b || a > c) && (a < large))
    {
      seclarge = a;
    }
  else if (((b > a) || b > c) && (b < large))
    {
      seclarge = b;
    }
  else
    {
      seclarge = c;
    }
  float avg = sumaver (large, seclarge);
```

```
  printf ("Average of first two number is %f\n", avg);
  int x = printeven (large, seclarge);
}

float
sumaver (int a, int b)
{
  float sum = a + b;
  printf ("Sum of two numbers is %f\n", sum);
  float avg = sum / 2;
  return avg;
}

int
printeven (int a, int b)
{
  int x = a;
  int y = b;
  printf ("Printing all even numbers between a and b\n");
  for (int i = y + 1; i < x; i++)
    {
      if ((i % 2) == 0)
            {
              printf ("Even Numbers %d\n", i);
            }
    }
}
```