Q1. Calculate the sum of numbers (10 numbers max) & if the user enters a -ve number, the loop terminates.

```
#include<stdio.h>

int sumOfRange(int);

int main() {

  int n1;

  int sum;

  printf("calculate the sum of numbers from 1 to n:\n");

  printf(" Input the last number of the range starting from 1:");

  scanf("%d", &n1);

  sum = sumOfRange(n1);

  printf("\n The sum of numbers to %d : %d\n",n1, sum);

  return 0;

}

int sumOfRange(int n1) {

  int res;

  if(n1<0) {

     return 0;

  }

  else if(n1 == 1)

  {

    return (1);

  }

  else

  {

    res = n1 + sumOfRange(n1 - 1);

  }
```

```
  return (res);
}
```

```
calculate the sum of numbers from 1 to n:

Input the last number of the range starting from 1:-
1


 The sum of numbers from 1 to -1 : 0
```

Q2. Calculate the sum of numbers (10 numbers max) & if the user enters a -ve number, it's not added to the result.

```
#include<stdio.h>

int sumOfRange(int);

int main() {

  int n1;

  int sum;

   printf(" Input the last number of the range starting from 1 to:");

  scanf("%d", &n1);

  sum = sumOfRange(n1);

  printf("The sum of numbers 1 to %d : %d\n",n1, sum);

  return 0;

}

int sumOfRange(int n1) {

  int res;

  if(n1<0) {

     return (res);

  }

  else if(n1 == 1 && n1>0) {

    return (1);

  }
```

```
  else
  {
    res = n1 + sumOfRange(n1 - 1);
  }
  return (res);
}
```

```
Input the last number of the range starting from 1 to:10
The sum of numbers 1 to 10 : 55
```

Q3. Take input from the user until he/she enters zero.

```
#include<stdio.h>
int main()
{
  int n=0,i;
  for(i=0;i<=n;i++)
  {
     printf("Enter the n value:");
     scanf("%d",&n);
      if(n==0)
         break;
  }
  return 0;
}
```

```
Enter the n value:1
Enter the n value:2
Enter the n value:3
Enter the n value:0
```

Q4. Check whether the given number is prime or not. (Using Break)

```
#include <stdio.h>

int main() {

   int n, i,  temp= 0;

   printf("Enter a positive integer: ");

   scanf("%d", &n);

   for (i = 2; i <= n / 2; ++i)   {

      if (n % i == 0)  {

         temp= 1;

         break;

      }

   }


   if (n == 1)  {

      printf("1 is neither prime nor composite.");

   }

   else

   {

      if (temp == 0)

         printf("%d is a prime number.", n);

      else

         printf("%d is not a prime number.", n);

   }


   return 0;

}
```

```
Enter a positive integer: 9

9 is not a prime number.
```

Q5. Print sum of odd numbers between 0 and 10. (Using Continue)

```
#include <stdio.h>

int main() {

   int n, i,sum;

   for(i=0;i<=10;i++)

   {

      printf("Enter the value for n:");

      scanf("%d",&n);

      if(n%2==1)

      {

         sum=sum+n;

         printf("Sum:%d\n",sum);

         continue;

      }

      printf("The total sum is:%d\n",sum);

   }

   return 0;

}
```

```
Enter the value for n:3

Sum:3

Enter the value for n:4

The total sum is:3

Enter the value for n:5

Sum:8

Enter the value for n:6
```

```
The total sum is:8

Enter the value for n:7

Sum:15

Enter the value for n:8

The total sum is:15

Enter the value for n:9

Sum:24

Enter the value for n:1

Sum:25

Enter the value for n:3

Sum:28

Enter the value for n:4

The total sum is:28
```

Q6. Check whether the given number is prime or not. (Using Continue)

```
#include <stdio.h>

int main() {
   int n, i,  temp= 0;
   printf("Enter a positive integer: ");
   scanf("%d", &n);
   for (i = 2; i <= n / 2; ++i)   {
      if (n % i == 0)  {
         temp= 1;
         continue;
      }
   }
   if (n == 1)  {
      printf("1 is neither prime nor composite.");
   }
```

```
    else
    {
        if (temp == 0)
            printf("%d is a prime number.", n);
        else
            printf("%d is not a prime number.", n);
    }

    return 0;
}
```

```
Enter a positive integer: 7

7 is a prime number.
```

Q7. Print all even numbers from 1 to 100. (Using Continue)

```
#include <stdio.h>
int main()
{
    int i,sum;
    printf("Even numbers between 1 to 100\n");
    for(i= 1; i<= 100; i++)
    {
        if(i%2 == 0)
        {
            printf("%d ", i);
        }
        if(i%2==0)
        {
            sum=sum+i;
```

```
        printf("Sum:%d\n",sum);
        continue;
      }
   }
      printf("The total sum is:%d\n",sum);
   return 0;
}
```

```
Even numbers between 1 to 100
2 Sum:2
4 Sum:6
6 Sum:12
8 Sum:20
10 Sum:30
12 Sum:42
14 Sum:56
16 Sum:72
18 Sum:90
20 Sum:110
22 Sum:132
24 Sum:156
26 Sum:182
28 Sum:210
30 Sum:240
32 Sum:272
34 Sum:306
36 Sum:342
38 Sum:380
40 Sum:420
```

```
42 Sum:462

44 Sum:506

46 Sum:552

48 Sum:600

50 Sum:650

52 Sum:702

54 Sum:756

56 Sum:812

58 Sum:870

60 Sum:930

62 Sum:992

64 Sum:1056

66 Sum:1122

68 Sum:1190

70 Sum:1260

72 Sum:1332

74 Sum:1406

76 Sum:1482

78 Sum:1560

80 Sum:1640

82 Sum:1722

84 Sum:1806

86 Sum:1892

88 Sum:1980

90 Sum:2070

92 Sum:2162

94 Sum:2256

96 Sum:2352

98 Sum:2450
```

```
100 Sum:2550

The total sum is:2550
```

Q8. Print numbers from 1 to 10 using goto statement. (Using goto)

```
#include <stdio.h>

int main(){

        int n;

        START:

        printf("%d ",n);

        n++;

        if(n<=10)

                goto START;

        return 0;

}
```

```
0 1 2 3 4 5 6 7 8 9 10
```

Q9. Program to calculate the sum and average of positive numbers, If the user enters a negative number, the sum and average are displayed. (Using goto)

```
#include <stdio.h>

int main(){

   const int max = 100;

   int i, number, avg, sum = 0;

   for (i = 1; i <= max; ++i)   {

      printf("Enter a number: ", i);

      scanf("%d", &number);

      if (number < 0)   {

         goto START;

      }
```

```
        sum += number;
    }
    START:
    avg = sum / (i - 1);
    printf("Sum = %d\n", sum);
    printf("Avg = %d", avg);
    return 0;
}
```

```
Enter a number: 2

Enter a number: 3

Enter a number: 4

Enter a number: 5

Enter a number: -
1

Sum = 14

Avg = 3
```

Q10. Check if a number is even or not. (Using goto)

```
#include <stdio.h>
int main(){
int num;
 printf("enter the number :");
 scanf("%d",&num);
 if(num%2==0)
 goto even;
 else goto odd;
 even:
 printf(" %d is a even number",num);
 return 0;
```

```
 odd:

 printf(" %d is not a even number",num);

}
```

```
enter the number :4

 4 is a even number
```