Assignment-6

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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 :6


 6 is a even number
```