

## ASSIGNMENT- 1

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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 :4
```

```
4 is a even number
```