

Answer of Assignment 6– 11.01.2021

SUBJECT-PROGRAMMING AND DATA STRUCTURE USING C (PDSC)

LECTURE-M. Thangavel

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- 1. calculate the sum of numbers (10 numbers max) & If the user enters a negative number, the loop terminates.**

```
#include <stdio.h>

int main(){
    int n,i,sum=0;

    for(i=0;i<10;i++){
        printf("enter a number :: ");
        scanf("%d",&n);
        if(n < 0){
            break;
        }
        sum = sum + n;
    }
    printf("Sum of given number is :: %d ",sum);
    return 0;
}
```

Output:

```
enter a number :: 2
enter a number :: 3
enter a number :: 6
enter a number :: 7
enter a number :: 3
enter a number :: 5
enter a number :: 6
enter a number :: 3
enter a number :: 6
enter a number :: 7
Sum of given number is :: 48
```

2. calculate the sum of numbers (10 numbers max) & If the user enters a negative number, it's not added to the result.

```
#include <stdio.h>
int main(){
    int n,i,sum=0;

    for(i=0;i<10;i++){
        printf("enter a number :: ");
        scanf("%d",&n);
        if(n < 0){
            continue;
        }
        sum = sum + n;
    }

    printf("Sum of given number is :: %d ",sum);

    return 0;
}
```

Output:

```
enter a number :: 2
enter a number :: -4
enter a number :: 6
enter a number :: 8
enter a number :: -5
enter a number :: -9
enter a number :: 4
enter a number :: 3
enter a number :: -9
enter a number :: 2
Sum of given number is :: 25
```

3. take input from the user until he/she enters zero. (Using Break).

```
#include <stdio.h>
int main(){
int n,i,sum=0;

while(i>0){
    printf("enter a number :: ");
    scanf("%d",&n);
    if(n == 0){
        break;
    }
    i++;
}
return 0;
}
```

Output:

```
enter a number :: 5
enter a number :: 6
enter a number :: 6
enter a number :: 5
enter a number :: 0
```

4. check whether the given number is prime or not.(Using Break).

```
#include <stdio.h>

int main(){
int n,i,j=1,c=0;
printf("Enter a number :: ");
scanf("%d",&n);

for(i=2;i<n;i++){
    if(n % i == 0){
        c += 1;
        break;
    }

}

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

Output:

Enter a number :: 13

13 is a prime number

5. print sum of odd numbers between 0 and 10. (Using Continue).

```
#include <stdio.h>

int main(){
int i,n,sum=0;

for(i=0;i<10;i++){
    printf("enter a number :: ");
    scanf("%d",&n);

    if(n % 2 == 0){
        continue;
    }
    sum += n;
}

printf("Sum of odd numbers = %d ",sum);

return 0;
}
```

Output:

```
enter a number :: 1
enter a number :: 2
enter a number :: 3
enter a number :: 4
enter a number :: 5
enter a number :: 6
enter a number :: 7
enter a number :: 8
enter a number :: 9
```

enter a number :: 10
Sum of odd numbers = 25

6. check whether the given number is prime or not.(Using Continue)

```
#include <stdio.h>

int main(){
    int n,i,j=1,c=0;
    printf("Enter a number :: ");
    scanf("%d",&n);

    for(i=2;i<n;i++){
        if(n % i == 0){
            c += 1;
            continue;
        }
    }
    if(c == 0)
        printf("%d is a prime number",n);
    else
        printf("%d is not a prime number",n);
    return 0;
}
```

Output:

Enter a number :: 5

5 is a prime number

7. print all even numbers from 1 to 100. (Using Continue).

```
#include <stdio.h>

int main(){
int i;
printf("Even numbers 1 to 100 :: [ ");
for(i=1;i<=100;i++){

    if(i % 2 != 0){
        continue;
    }
    printf("%d ",i);
}
printf("]");
return 0;
}
```

Output:

Even numbers 1 to 100 :: [2 4 6 8 10 12 14 16 18 20 22 24 26 28 30
32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74
76 78 80 82 84 86 88 90 92 94 96 98 100]

8. print numbers from 1 to 10 using goto statement. (Using goto).

```
#include <stdio.h>
```

```
int main(){
```

```
int i=1;
```

```
li:
```

```
printf("%d \n",i);
```

```
i++;
```

```
if(i<=10){
```

```
    goto li;
```

```
}
```

```
return 0;
```

```
}
```

Output:

1

2

3

4

5

6

7

8

9

10

9. 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(){
int c=0,n,sum=0;
float avg=0;

li:
printf("Enter a number :: ");
scanf("%d",&n);
if(n>0){
    sum += n;
    c +=1;
}
if(n>0){
    goto li;
}

printf("Sum of given number = %d \n",sum);
avg = sum/c;
printf("Average of the given number = %f",avg);

return 0;
}
```

Output:

```
Enter a number :: 5
Enter a number :: 6
Enter a number :: 3
Enter a number :: 8
Enter a number :: 9
Enter a number :: 4
Enter a number :: -5
```

Sum of given number = 35
Average of the given number = 5.000000

10. check if a number is even or not. (Using goto).

```
#include <stdio.h>

int main(){
int c=0,n,sum=0;

li:
printf("enter a number :: ");
scanf("%d",&n);

if(n % 2 != 0){
    goto li;
}
printf("%d is even number",n);

return 0;
}
```

Output:

```
enter a number :: 3
enter a number :: 7
enter a number :: 9
enter a number :: 5
enter a number :: 6
6 is even number]
```