

do while, for, break in C Language

Day-11

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while

white (condition)

{

====

$i \leq 10$	T	1
$2 \leq 10$	T	2
$3 \leq 10$	T	3
$4 \leq 10$	T	4
$5 \leq 10$	T	5
$6 \leq 10$	T	6
$7 \leq 10$	T	7
$8 \leq 10$	T	8
$9 \leq 10$	T	9
$10 \leq 10$	T	10
$11 \leq 10$	F	

}

```
int i=1;
while( i<=10)
{
    printf("%d", i);
    i++;
}
```

Entry control loop

do - while

do

10

====

$2 \leq 10$	T	2
$3 \leq 10$	T	3
$4 \leq 10$	T	4
$5 \leq 10$	T	5
$6 \leq 10$	T	6
$7 \leq 10$	T	7
$8 \leq 10$	T	8
$9 \leq 10$	T	9
$10 \leq 10$	T	10
$11 \leq 10$	F	

T-g

3 while (condition);

int i=1;

do

{ printf("%d", i);

i++;

} while(i<=10);

Exit control loop

for

for(; ;)

{

====

}

$i \leq 10$	T	1
$2 \leq 10$	T	2
$3 \leq 10$	T	3
$4 \leq 10$	T	4
$5 \leq 10$	T	5
$6 \leq 10$	T	6
$7 \leq 10$	T	7
$8 \leq 10$	T	8
$9 \leq 10$	T	9
$10 \leq 10$	T	10
$11 \leq 10$	F	

int i;

for(i=1; i<=10; i++)

{ printf("%d", i);

}

Entry control loop

Write a program to calculate sum of first n natural numbers.

main()
{

```
int n,i,s=0;  
printf("Enter a number");  
scanf("%d",&n);  
for (i=1 ; i<=n ; i++)  
    s=s+i;  
printf("Sum is %d",s);  
getch();
```

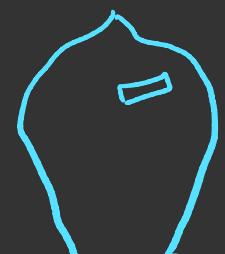
$$n=5 \\ s=0 \quad 1+2+3+4+5 = 15$$

$$\begin{aligned} ① s &= s + 1 \\ ② s &= s + 2 \\ ③ s &= s + 3 \\ ④ s &= s + 4 \\ ⑤ s &= s + 5 \end{aligned}$$

s | 15

s
| 15

}



break

- **break** is a keyword
- break can be used either in **loop's body** or **switch's body**.
- In loop, break is used to terminate execution of loop.

```
int i=1;  
while (age <= 100)  
{  
    if (→) break;  
    → age++;  
}
```

Define a game like program, in which user has to enter an even number to win the game. User will get at most 3 chances.

```
main()
{
    int x, i;
    for (i=1; i<=3; i++)
    {
        printf("Enter an even number");
        scanf("%d", &x);
        if (x % 2 == 0)
            break;
    }
    if (i == 4)
        printf("Game over");
    else
        printf("You win");
    getch();
}
```

Find Output

```
main()
```

```
{
```

```
    int x=5;
```

```
    do  
    { printf("%d", x);
```

```
        x--;
```

```
    } while (x>4);
```

```
}
```

x
5

5

Find Output

```
main()
{
    int i, j;
    for ( i=1, j=10 ; i < j ; i++, j-- )
    {
        if ( i == j )
            break;
        printf( "%d", i+j );
    }
    getch();
}
```