

C Language

Iterative Control instruction

Part - 2



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Agenda

- ① do-while loop
- ② for loop
- ③ break
- ④ continue

Entry Control loop

```
while (condition)
{
    =
}

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

$1 \leq 10 \quad T$
 $2 \leq 10 \quad T$
 $3 \leq 10 \quad T$
⋮
 $10 \leq 10 \quad T$
 $11 \leq 10 \quad F$

Exit Control loop

```
do
{
    =
}

while (condition);

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

$2 \leq 10 \quad T$
 $3 \leq 10 \quad T$
 $4 \leq 10 \quad T$
⋮
 $10 \leq 10 \quad T$
 $11 \leq 10 \quad F$

Entry Control loop

```
for( ; ; )
{
    =
}

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

$1 \leq 10 \quad T$
 $2 \leq 10 \quad T$
 $3 \leq 10 \quad T$
⋮
 $10 \leq 10 \quad T$
 $11 \leq 10 \quad F$

```
int main()
{
    int i=1;
    for ( ; ; )
    {
        printf("%d ", i);
        i++;
    }
}
```

while () error

infinite loop

Find Output of the program

```
int main()
{
    int a=2,b=-1,c;
    do
    {
        c=a+b+1;
        printf("%d",c);
        a=b+1;
        b=a+1;
    } while(c<10);
}
```

Find output of the program

```
int main()
{
    int i, j, k;
    for (i=0; i<3; i++)
    {
        j = i*2 + 1;
        k = j*3 - 2;
        printf("%d %d %d", i, j, k);
    }
}
```

break

while(condition)

{

 break;

}

.

- **break** is a keyword
- It can be used in the body of loop or in the body of switch.
- When **break** encounters loop terminates and control move out of the loop body.

```
while ( i<=100 )  
{  
    if (...)  
    {  
        break;  
    }  
    i++;  
}
```

Write a program which asks user to enter an even number, computer will give user at most 3 chances, if user failed to answer in all of the chances, "Game Over" message should be displayed on the screen, otherwise "You Win" message should be displayed and game stops immediately.

Write a program to add numbers entered by user. User can enter any number of numbers until he enters 0.

Continue

while (condition)

{

if (---)

 Continue;

}

- continue is a keyword
- continue can only be used in the body of loop.
- continue transfers the control to the next iteration.