

A job ready bootcamp in C++, DSA and IOT

Iterative Control instruction



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Agenda

- ① Iterative control statements
- ② while loop
- ③ Practice problems
- ④ do-while loop
- ⑤ for loop
- ⑥ break
- ⑦ continue

Iterative Control Statements

(loop)

- ① while
- ② do while
- ③ for

int main()
{

=====
=====
=====
while(—)
=====

=====

}

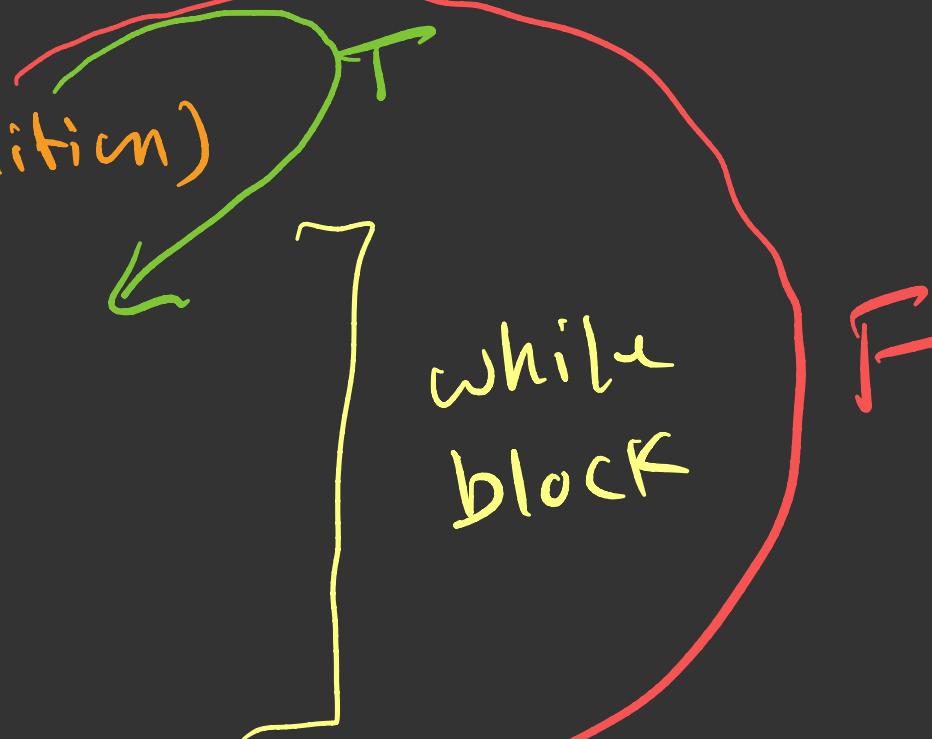
while

white (condition)

{

====

}



F

Write a program to print MySirG
5 times on the screen.

```
int main()
{
    int i=1;

    while (i<=5)
    {
        printf(" MySirG");
        i++;
    }
}
```

i
6

Write a program to print first 10 natural numbers.

1 2 3 4 5 6 7 8 9 10

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



Write a program to print first
N natural numbers.

Find Output of the program

```
int main()
{
    int i=0;
    while (i<=6)
    {
        if(i%2)
            i = i - 3;
        else
            i = i + 5;
        printf("%d ", i);
    }
    printf("%d", i);
}
```

i
7

0%2 0

5 2 7 7

-5%2 -1

5%-2 1

-5%, -2 -1

5%. 2 1

Entry Control loop

while (condition)

{

=

}

int i=1;

while (i<=10)

{ printf("%d", i);

i++;

}

1 <= 10 T

2 <= 10 T

3 <= 10 T

:

10 <= 10 T

11 <= 10 F

Exit Control loop

do

{

=

} while (condition);

int i=1;

do

{

printf("%d", i);

i++;

} while (i <= 10);

2 <= 10 T

3 <= 10 T

4 <= 10 T

:

10 <= 10 T

11 <= 10 F

Entry Control loop

for(; ;)

{

=

}

int i;

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

{ printf("%d", i);

}

1 <= 10 T

2 <= 10 T

3 <= 10 T

:

10 <= 10 T

11 <= 10 F

int main()
{
 int i=1;

 for (; True ;)
 {
 printf("%d ", i);
 i++;
 }
}

while () error

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);
}
```



2 2 6 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);
```

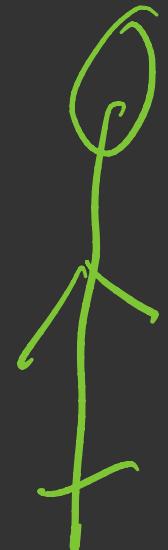
```
}
```

i j k
3 5 13

3 5 13

while(condition)
{

=
break;
=



break

int i=1;
while(i<=100)

{
if(-)
break;
=i++;



- **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.

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 any 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.



$$\underline{S = S + X}$$

Continue

while (condition)

{

====

 continue;

====

}

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