Check if a number is prime.

18 → 1 2 3 6 9 18

For number no

Check if any number from 2 to $\frac{no}{2}$ perfectly divides no.

⇓

remainder = 0

If we find even one number that perfectly divides no then no is not prime.

Print numbers from n down to 1.

```
int n;
read n;
while (n >= 1) {
    write n;
    n = n - 1;
}
```

n → 3 2 1 0

O/P: 3 2 1

Increment `++` } unary operators.

Decrement `--`

```
no = no + 1;
++no;
```
← Pre increment

```
n = n - 1;
--n;
```
← Pre decrement

no++; ← Post increment

n--; Post decrement

no = 5;

++no;

value of expression! ⇒ 6

no = 5 → 6

⇒ new value of operand. ||| when pre operator is used.

n = 5

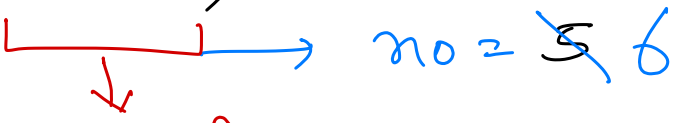
--n;

value = 4

n = 5 → 4

no = 5;

no++;



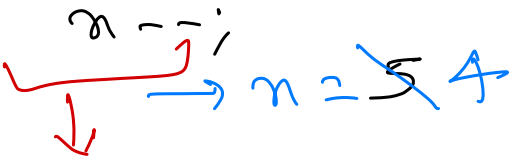
value of expression? ⇒ 5

⇒ old value of operand.

value of operand before operation was performed.

n = 5;

n--;



value of expression ⇒ 5

```
no = 5;
x = ++no;
```

→ x = 6

no = 6

```
no = 5;
y = no++;
```

→ y = 5

no = 6

```
no = 5;
no = ++no + no++;
```

```
x = 3;  y = 4;
no = ++x + y++;
```

```
int n;
read n;
while ( n ) {
    write n;
    n = n - 1;
}
```

Value of this?
⇒ value of variable.

n → 3 2 1 0

o/p: 3 2 1

In condition

→ 0 ⇒ false

→ non-0 ⇒ true.

Read a positive number;

```
int no;
std:: cout << " Enter a positive number: ";
std:: cin >> no;

if (no < 0) {
    std:: cout << " Invalid input";
    return 0;
}
```

```
int no;
std:: cout << " Enter a positive number: ";
std :: cin >> no;
while ( no < 0 ) {
    std:: cout << " Enter a positive number:
    std :: cin >> no;
}
:
```

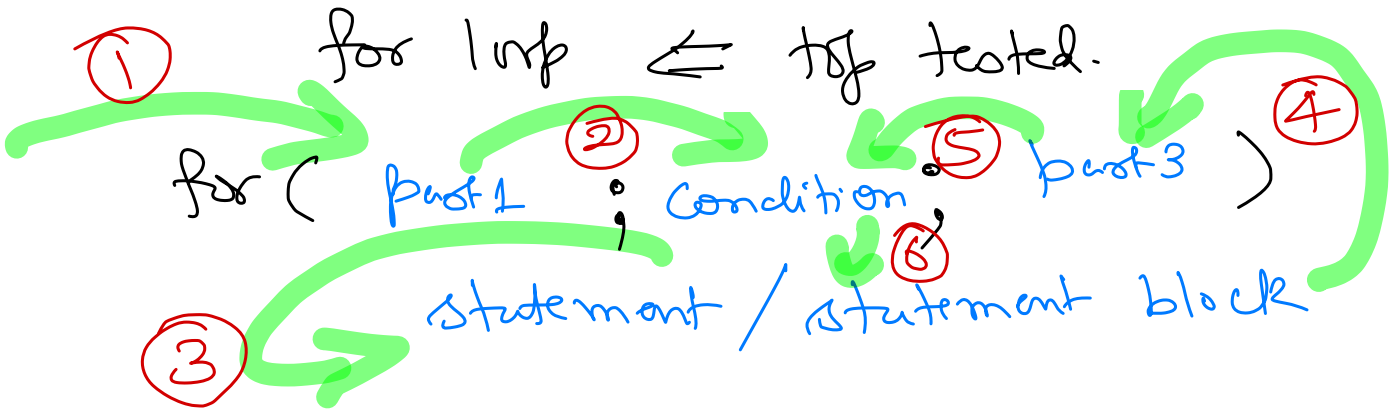
Do - while loop

```
do {

}
while ( condition );
```

```
int no;
do {
    std::cout << "Enter a positive number: ";
    std::cin >> no;
} while (no < 0);
```

;




```
int n;
read n;
while (n >= 1) {
    write n;
    n = n - 1;
}
```

```
int n;
read n;
for (; n >= 1; --n)
    write n;
```

statement that sets initial value to looping variable(s)

Looping variable → variable(s) used in condition, that are changed in body of lrp.

```
int n
read n,
int no = 1;
while( no <= n ) {
        std:: cout << no << ' ';
        ++ no;
}
```

```
int n;
read n;
int no;
for ( no = 1;  no <= n;  ++no)
      std:: cout << no << ' ';
```

```
int n;
read n;
for ( int no = 1;  no <= n;  ++no)
      std:: cout << no << ' ';
```

no = no + 1