

if else

if (cond1) {

work1

} else {

work2

}

A.R.F/100

2) $\begin{array}{r} 6 \\ 13 \\ 12 \\ \hline 1 \end{array} \rightarrow \text{rem}$

$a / b \rightarrow q$
 $a \% b \rightarrow \text{Rem}$

A $\rightarrow 90 - 100$

B $\rightarrow 80 - 90$

C $\rightarrow 70 - 80$

D $\rightarrow 60 - 70$

E $\rightarrow 50 - 60$

F $\rightarrow 50 \sim 1$

if else ladder

if (cond1) {

work1

} elseif (cond2) {

work2

} elseif (cond3) {

work3

else {

3. 40, 90

$70 \leq C < 80$

$70 \leq C$

$C < 80$

Bahar = \$\$ or call

\$s	Call	Bahar
F	F	F
F	T	T
T	F	T
T	T	T

Green	Engon	Bhag
F	F	F
F	F T	F
T	F	F
T	T	T

loops

```

while (cond) {
    work
}

```

// cond → initialize.

```
while (cond) {
```

Kaam

→ cond → update

}

```

int count = 0; // condition initialize
while(count < 5) {
    System.out.println("loop");
    count++;
}

```

egi = Green and tyne

—

—

— ✓

—

```

1 int count = 0; // condition initialize
2 while (count < 5) {
3     System.out.println("stapped");
4     count = count + 1;
5 }

```

$c=0$ while($0 < 5$) | while($1 < 5$) | while($2 < 5$)
 $c=1$ | $c=2$ | $c=3$
 $c=4$ | while($4 < 5$) | while($5 < 5$)
 $c=5$

```

1 int count = 0;
2 while (count < 5) {
3     System.out.println(count);
4     count = count + 1;
5 }

```

$c=0$ while($0 < 5$) | while($1 < 5$) | while($2 < 5$)
 $c=0+1=1$ | $c=1+1=2$ | $c=2+1=3$
while($3 < 5$) | while($4 < 5$) | while($5 < 5$)
 $c=3+1=4$ | $c=4+1=5$

```

1 int count = 0;
2 while (count < 5) {
3     System.out.println(count);
4 }

```

$c=0$ while($0 < 5$) | while($1 < 5$)
 $c=1$ | $c=2$
 $System.out.println(1)$
while($2 < 5$) | while($3 < 5$)
 $c=2+1=3$ | $c=3+1=4$
 $c=3$

natural no. sum

N
 $1, N$

```

int num = 1;
while (num <= 5) {
    System.out.println(num);
    num = num + 1;
}
System.out.println(num);

```

```

1 int num = 1;
2 int ans = 0;
3 while (num <= 5) {
4     System.out.println(num);
5     num = num + 1;
6     ans = ans + num / 2;
7 }
8 System.out.println(ans);

```

$n=1$
 $a=0$ while($1 < 5$) | while($2 < 5$) | while($3 < 5$)
 (1) | (2) | (3)
 $n=1+1=2$ | $n=2+1=3$ | $n=3+1=4$
 $a=a+n$ | $a=a+n$ | $a=a+n$
 $=0+2$ | $=2+3=5$ | $=5+4=9$
while($4 < 5$) {
 $System.out.println(4)$
 $n=4+1=5$
 $a=a+n=9+5=14$
while($5 < 5$)
 $System.out.println(5)$
 $n=5+1=6$
 $a=14+6=20$

```

public static void main(String[] args) {
    1 int num = 1;
    2 int ans = 0;
    3 while (num <= 5) {
    4     ans = ans + num;
    5     num = num + 1;
    6 }
    7 System.out.println(ans);
}

```

$n=1$
 $a=0$ while($1 < 5$) | while($2 < 5$)
 $a=a+n$ | $a=a+n$
 $=0+1=1$ | $=1+2=3$
 $n=n+1$ | $n=n+1$
 $=1+1=2$ | $=2+1=3$
while($3 < 5$)
 $a=3+3=6$ | while($4 < 5$) | while($5 < 5$)
 $n=4+1=5$ | $a=a+n$ | $a=a+n$
 $=6+4=10$ | $n=5+1=6$ | $a=10+5=15$
while($6 < 5$)

Prime

2, 3, 5, 7, 11

18

→ 1, 2, 3, 7, 5, 6, 7, 8, 9, 10, 11, 12, 13, ... 18

$= 1+1+1+1+1$

```

1 int N = 6;
2 int divisor = 1;
3 int numFact = 0;
4 while (divisor <= N) {
5     int rem = N % divisor;
6     if (rem == 0) {
7         numFact = numFact + 1;
8         divisor = divisor + 1;
9     }
10 }

```

while($3 < 6$)
 $rem=0$
if($rem=0$)
 $numFact=numFact+1$
 $numFact=1$
 $divisor=3+1=4$

```

1 int N = 6;
2 int divisor = 1;
3 int numFact = 0;
4 while (divisor <= N) {
5     int rem = N % divisor;
6     if (rem == 0) {
7         numFact = numFact + 1;
8         divisor = divisor + 1;
9     }
10 }

```

while($4 < 6$)
 $rem=2$
if($rem \neq 0$)

```

1 int N = 6;
2 int divisor = 1;
3 int numFact = 0;
4 while (divisor <= N) {
5     int rem = N % divisor;
6     if (rem == 0) {
7         numFact = numFact + 1;
8         divisor = divisor + 1;
9     }
10 }

```

while($5 < 6$)
 $rem=1$
if($rem \neq 0$)

while($6 < 6$)
 $rem=0$
if($rem=0$)

$\text{if } (m = 0)$ $nF = nF + 1$ $\text{div} = 3 + 1 = 4$	$\text{while } (4 \leq 6)$ $m = 2$ $\text{if } (m \neq 0)$ di $\text{div} = 4 + 1 = 5$	$\text{while } (5 \leq 6)$ $n = 1$ $\text{if } (F)$ $\text{div} = 6$	$\text{while } (6 \leq 6)$ $n = 0$ $\text{if } (T)$ $nF = nF + 1 = 4$ $\text{div} = 7$
---	---	---	--

Fibonacci

Q1 0, 1, 1, 2, 3, 5, 8, 13, 21,
 0 1 2 3 4 5 6 7 8

i → Fib ✓

Q2 GCD → HCF

