Fibonacci Series

a b

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, ...

int a=0 → 1st value

int b=1 → 2nd value.

3rd value → a+b → 0+1 → 1 → sum.

4th value → sum + b → 1+1 → 2 → sum.

a=b=1

b=sum=1

2 ← a+b → b+sum.

a=b=1.

b=sum=2.

5th value → sum → a+b ⇒ b

4th value ← b sum

1 2

sum = a+b = 1+2 = 3.

Int

```
int nthFibonacci(int n){
    int a=0;
    int b=1;
```

```
if(n==1)
  return a;
if(n==2)
   return b;
int sum=0;
for(int i=3;i<=n;i++){
   sum=a+b;
    a=b;
    b=sum;
  }
S.o.pln("nth value is"+sum);
```

3 4 5 6 7

sum = a+b; → 1, 2, 3, 5, 8

a=b; → 1, 1, 2, 3, 5

b=sum; → 1, 2, 3, 5, 8

i→5

i<=n→5

While.

```
initialization
while(condition){
//statement
//upgradation
}
```

Example.

```
int i=0;
while(i<=5){
S.o.pln(i);
}
```

do While.

```
int i=5;
do{
S.o.pln(i);
i+=2;
}while(i<6);
```

→ 5

i → 7

Fibonacci Series 2

1 2 3 4 5 6 7 8 9 10

0 1 1 2 3 5 8 13 21 35

0, 1, 3, 8, 21

n : 1

↳ 0 → a

System.out.println(a);

n : 2

0 1

1 2

System.out.println(a);

n : 3

0 1 1

n : 4

0 1 1 2

n : 5

0 1 1 2 3

Tribonacci Series

0 1 1 2 4 7 11

1 2 3 4 5 6 7

a b c c

b a b

i = 4.

Sum: a+b+c

```
a=b;
b=c;
c=sum;
```

```
for(int i=0; i<5; i++){
    for(int j=0; j<4; j++){
        s.o.p ln(j);
    }
System.out.println("next
                    value");
}
```

i=0;
0
1
2
3
i=1
0
1
2
3
i=2
0
1
2
3
i=3
0
1
2
3
i=4
0

0
1
2
3
nextValue
0
1
2
3
nextValue

0
1
2
3
nextValue
0
1
2
3
next Value
0
1
2
3
next Value

1
2
3