

while loop

- Syntax →
 - Initialize (1)
 - while (test condn) (2)
 - ≡ (3)
 - update () (4)

```
int i = 0 (1)  
while (i < 5) { (2)  
    (3)✓  
    i++; (4) ✓
```

```
int i = 0; // initialisation (1)  
while(i < 5) // checking the test condition (2)  
    System.out.println("Geekster"); (3)  
    i++; (4)
```

for loop

```
for ( initialization; testcondn; upd )  
{ (1)  
    (2)  
    (3)  
}  
for ( int i = 0; i < 5; i++ ) { (1)  
    (2)  
    (3)  
}
```

```
for(int j = 0 ; j < 5 ; j++){ (1)  
    System.out.println("Geekster"); (2)  
}
```

infinite - while loops

```

int i = 0; // initialisation
while(i < 5) { // checking the test condition
    System.out.println("Abhishek");
}

```

```

int i = 0; // initialisation
while(true) { // checking the test condition
    System.out.println("Abhishek");
}

```

break / Continue

① break → `break;` → Syntax.

```

for(int i = 0 ; i<= 10; i++){
    if(i==4){
        break; ✓ - loops → terminate
    }
    System.out.println(i);
}

```

Memory

~~i=0 1 2 3 4~~

0
1
2
3

continue

```

0 ✓
1 ✓
2 ✓
3 ✓
4 ✓
5 ✓
for(int i = 0 ; i<= 10; i++){
    if(i==4){
        continue;
    }
    System.out.println(i);
}

```

4 == 4 skip

Memory

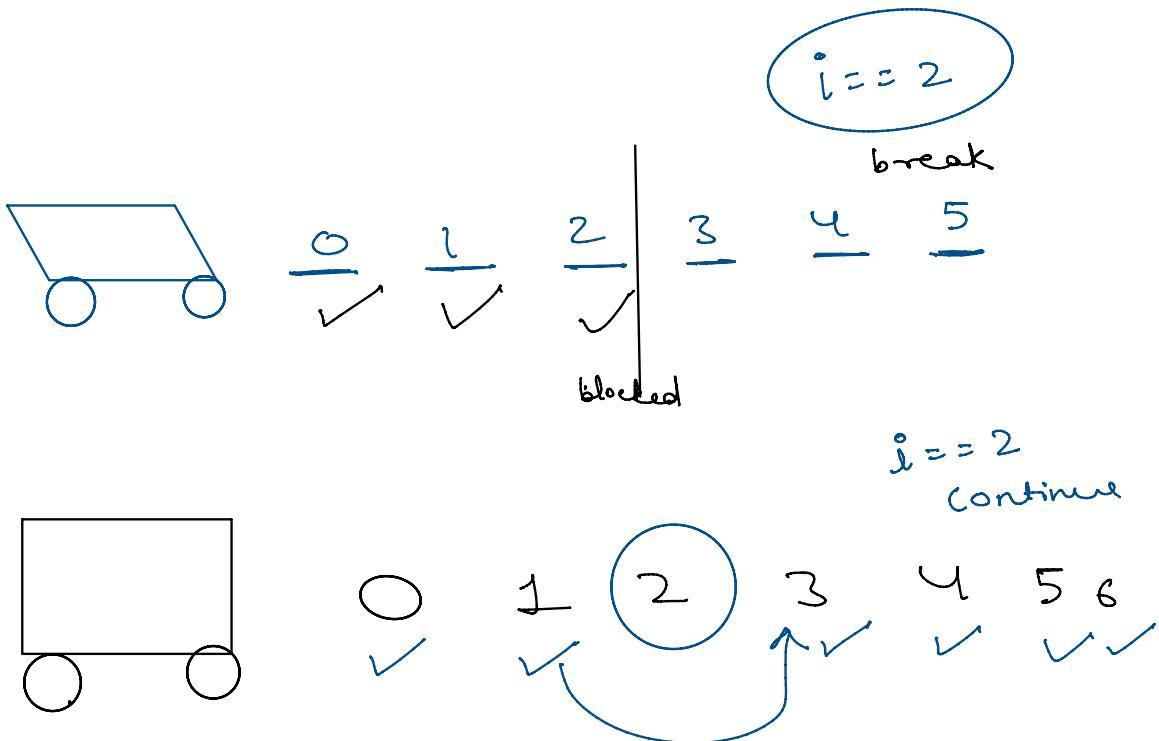
~~i=0 1 2 3 4 5 6 7 8 9 10~~

```

5
6     System.out.println(i);
7 }
8
9 int i = 0 ;
10 while( i<= 10 ){
    if(i==4){
        continue;
    }
    System.out.println(i);
    i++;
}

```

ANSWER

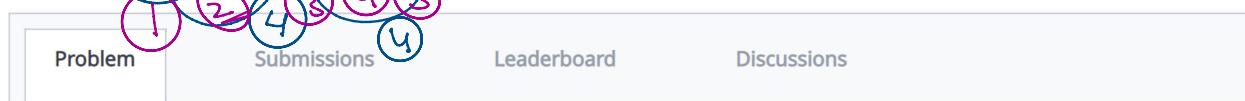


```

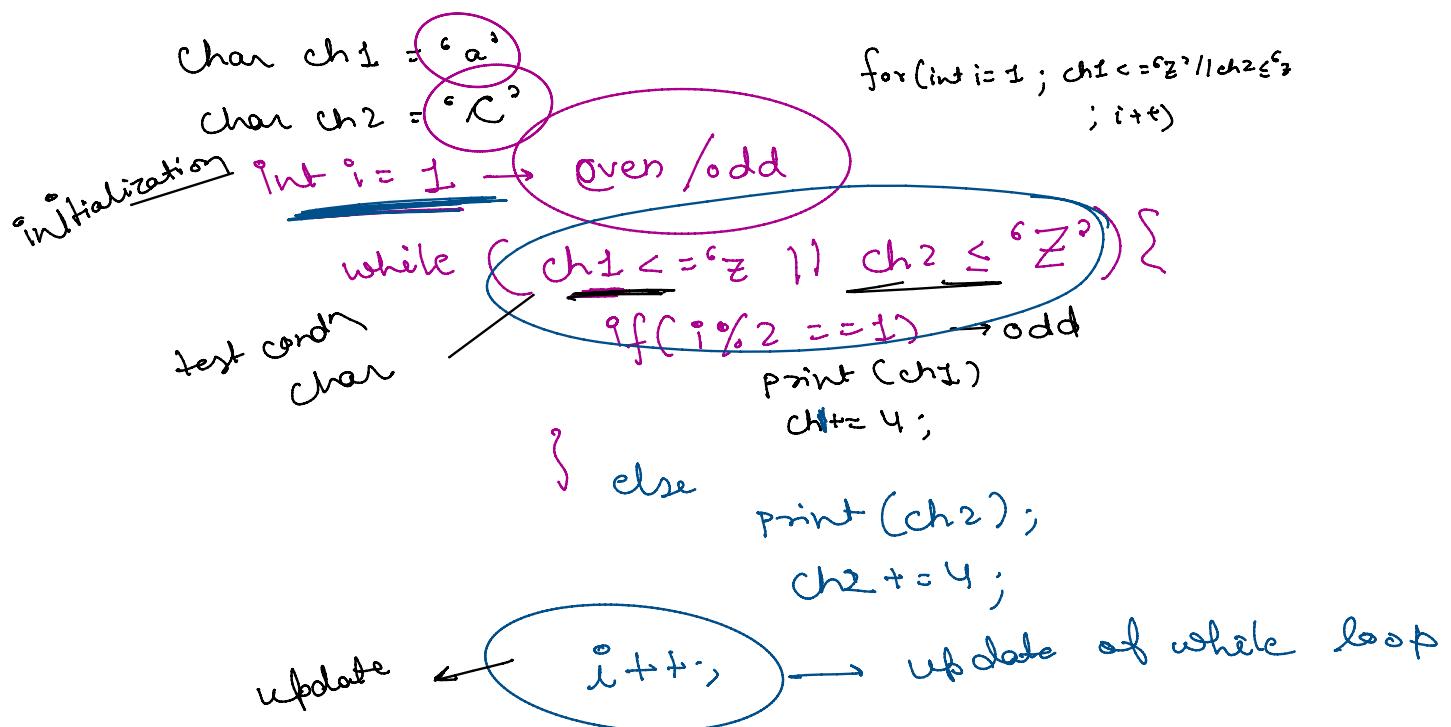
Scanner scn = new Scanner(System.in);
int n = scn.nextInt();
int sum = 0;
int i = 1 ;
while( i <= n ){
    int num = scn.nextInt();
    sum+=num;
    System.out.println(sum);
    i++;
}

```

Print a, C, e, G, i, K... till 'z' or 'Z'



Print a, C, e, G, i, K, m, O, q, S till the last character is less than 'z' or 'Z' accordingly whether 'z' or 'Z' is a part of the series or not.



```

char ch1 = 'a';
char ch2 = 'C';
int i = 1; // initialization
while(ch1 <= 'z' || ch2 <= 'Z'){
    if(i%2 == 1){ // odd
        System.out.println(ch1);
    }
    ch1 += 4;
    ch2 += 4;
    i++; // update of while loop
}

```

Memory

<code>ch1 = 'a' []</code>	<code>ch1 = 'e' []</code>	<code>ch1 = 'i' []</code>
<code>ch2 = 'C' []</code>	<code>ch2 = 'G' []</code>	<code>ch2 = 'K' []</code>

```

while(ch1<='z' || ch2<='Z'){
    if(i%2 == 1){ // odd
        System.out.println(ch1);
        ch1+=4;
    }else{ // even
        System.out.println(ch2);
        ch2+=4;
    }
    i++;
}

```

$ch2 = 'C' \rightarrow 'G'$
 $i = 1, 2, 3, 4, 5, 6, 7, 8, 9$

a C e G i k m O q

```

char ch1 = 'a';
char ch2 = 'C'; } odd(even)

for(int i = 1; ch1<='z' || ch2<='Z'; i++){
    if(i%2 == 1){ // odd
        System.out.println(ch1);
        ch1+=4;
    }else{ // even
        System.out.println(ch2);
        ch2+=4;
    }
}

```

Steps till n greater than 0

Problem	Submissions	Leaderboard	Discussions
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Take an integer input n, and you have to do either of these steps.

If the number is even subtract 1 from n

and if the number is odd subtract 3 from n.

Keep on performing these steps till the time the value of n is greater than 0. In the end print the total number of steps performed.

Step = 0;

$n \rightarrow$ even

$n = n - 1$

$n \rightarrow$ odd

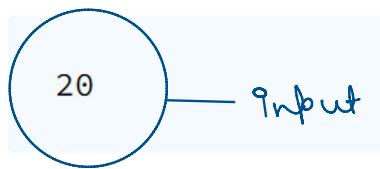
$n = n - 3$

step++; ✓

step++; ✓

$n > 0$
 while
 Count of steps
 int(steps);
 n = n - 1;

Sample Input 0



Sample Output 0



* when we are reducing some value at that point we are using while loop

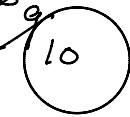
$$n = \cancel{19} \cancel{16} \cancel{15} \cancel{12} \cancel{11} \cancel{8} \cancel{7} \cancel{4} \cancel{3} \cancel{0}$$

even \rightarrow 1 se reduce

$$\underline{\text{Steps}} = \cancel{0} \cancel{1} \cancel{2} \cancel{3} \cancel{4} \cancel{5} \cancel{6} \cancel{7} \cancel{8} \cancel{9}$$

odd \rightarrow 3 se reduce

$$\underline{0 > 0} - \text{false}$$



int n \rightarrow Input

Steps = 0

while (n > 0)

if odd \rightarrow n = n - 3 ✓

Step++ ✓

else n = n - 1 ✓

Step ✓

}

Print (steps)

```
Scanner scn = new Scanner(System.in);
int n = scn.nextInt(); — 12
int step = 0; →
while(n>0){
    if(n%2 == 0){ // even
        n = n - 1; Step++;
    }else{ // odd
        n = n - 3; Step++;
    }
    Step++; ✓
}
System.out.println(step);
```

Memory

$$n = \cancel{12} \cancel{11} \cancel{8} \cancel{7} \cancel{4} \cancel{3} \cancel{0}$$

$$\underline{\text{Step}} = \cancel{0} \cancel{1} \cancel{2} \cancel{3} \cancel{4} \cancel{5} \cancel{6}$$

6

nth power of 10 using while loop

Sample Input 3

Problem

Submissions

Leaderboard

Discussions

Take n as an integer input and print the nth of 10 as an integer output.

ans = 3
while ($n > 0$) ($z > 0$)

~~Math.pow(10, n) → double~~

Sample Output 3

1000

```
Scanner scn = new Scanner(System.in);
int n = scn.nextInt();
int ans = 1;
while(n > 0){
    ans *= 10;
    n--;
}
System.out.println(ans);
```

int sum = 0

for () {

int num → input

~~sum = num~~
print (sum)

process

$$n = \cancel{5}43210$$

$$\text{ans} = \cancel{2} \cancel{10} \cancel{100} \cancel{1000} \cancel{10000}$$

Looooo

Print nth Tribonacci number

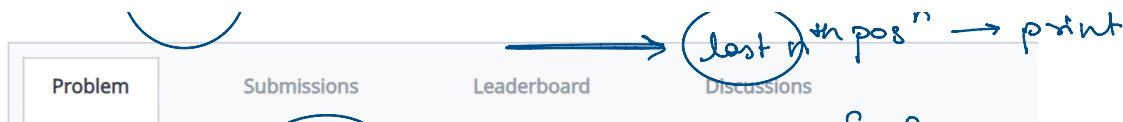
last n^{th} posⁿ → point

Problem

Submissions

Leaderboard

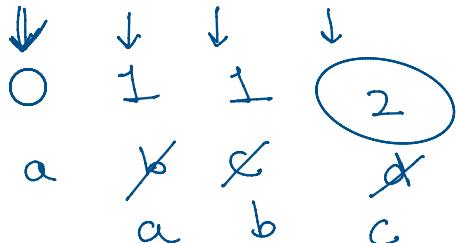
Discussions



nth term T_n of The Tribonacci sequence is defined as follows:

T_0 (0th term) = 0, T_1 (1st term) = 1, T_2 (2nd term) = 1, and $T_{n+2} = T_n + T_{n+1} + T_{n+2}$ for $n \geq 0$.

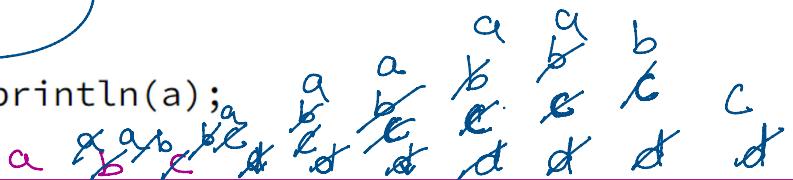
Take n as an integer inout, print the value of T_n (nth term) as an integer output.



print(a)

```
Scanner scn = new Scanner(System.in);
int n = scn.nextInt();
int a = 0;
int b = 1;
int c = 1;
for(int i = 1; i<=n ; i++){
    int d = a + b + c;
    a = b;
    b = c;
    c = d;
}
System.out.println(a);
```

$n = 7$
 $a = 0 1 1 2 4 7 13 24$
 $b = 1 1 2 4 7 13 24 44$
 $c = 1 2 4 7 13 24 44 81$
 $d = 2 4 7 13 24 44 81$
 $i = 1 2 3 4 5 6 7$



0 1 1 2 4 7 13 24 44 81