for loop.

GKSTR15 Print_Even

Problem | Submissions | Leaderboard | Discuss

Given a integer **n**, print all **even** numbers from **0** till **n** *(including, if even)*

eg. n = 8 → 0, 2, 4, 6, 8

n = 7 → 0, 2, 4, 6 ?

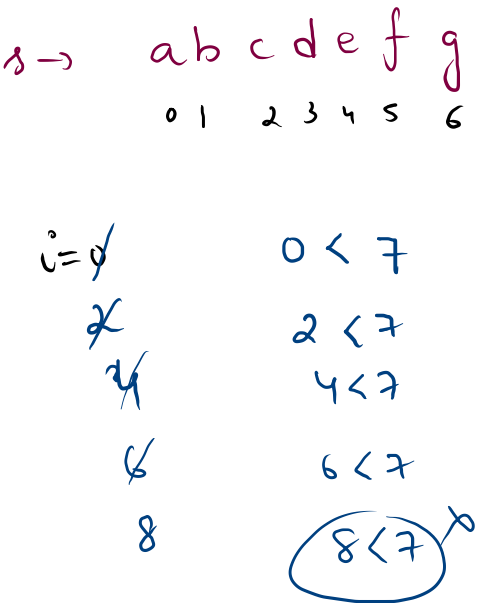
start → i = 0 → i ≤ n → i += 2

```java
import java.io.*;
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();

        for(int i = 0; i <= n; i += 2){
            System.out.println(i);
        }

    }
}
```

Print Alternate Elements of a String

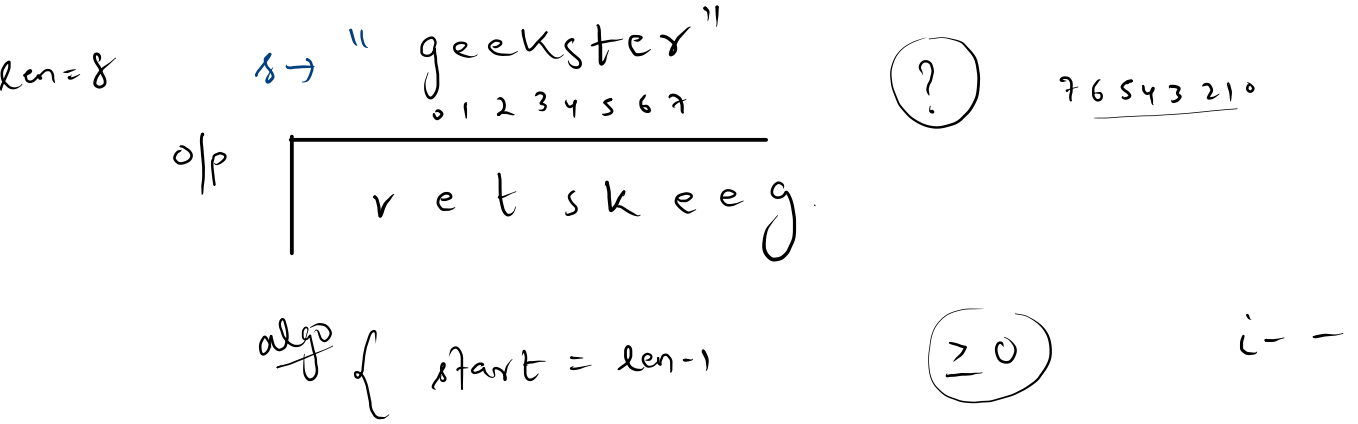
Sonu is a computer science student who is working on a project that involves processing text data. He has been asked to write a program that will take a string as input and output every other character of that string, starting with the first character. John is excited to work on this problem because he knows that it will require him to use his programming skills to solve a real-world problem. He knows that the program he writes will be able to take a string as input, such as abcdefg, and output the alternate characters, aceg. John is confident that he can write a solution to this problem and is eager to get started.


```java
import java.io.*;
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        String s = scn.next();

        for(int i = 0; i<s.length(); i += 2){
            System.out.print(s.charAt(i));
        }

    }
}
```



Reverse The String

Meet Sarah, a software developer who is working on a new project for her company. One of the tasks she has been assigned is to write a program that takes in a string and returns the string in reverse order. Can you help Sarah come up with an algorithm to solve this problem?




```java
import java.io.*;
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        String s = scn.next();
        for(int i = s.length()-1; i >= 0; i--){
            System.out.print(s.charAt(i));
        }
    }
}
```

nth power of 2

Problem | Submissions | Leaderboard | Discussions

Meet John, a computer science student who is working on a project for his algorithms class. One of the tasks he has been assigned is to write a function that takes in an integer **n** and returns the **nth power of 2**. For example, if **n** is **3**, the function should return **8** because **2** to the power of **3** is **8**.

Can you help John come up with a solution for this problem?

eg. $n = 2$

↳ $2^2 = 4$

eg. $n = 3$

$2^3 = 8$

eg. $n = 4$

$2^4 = 16$

Sample Input 0

```
3
```

Sample Output 0

```
8
```

$n = 3$ ⟹

↳ $\overbrace{2 \cdot 2 \cdot 2}^{n \text{ times}} = 8$

$n = 4$ $\overbrace{2 \cdot 2 \cdot 2 \cdot 2}^{n \text{ times}} = 16$

$n = 3$

$ans = 1 \times 2 \times 2 \times 2$ (8)

↑ ↑ ↑

$ans = 1$

```
for ( n times)
{
    ans *= 2;
}
```

```java
import java.io.*;
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();

        int ans = 1;

        for(int i = 1; i <= n; i++){
            ans *= 2;
        }
        System.out.println(ans);
    }
}
```

n = 3

ans = 1 2 4 8

i = 1 ✓ 1 ≤ 3 ✓
2 ✓ 2 ≤ 3 ✓
3 ✓ 3 ≤ 3 ✓
4 4 ≤ 3 ✗

Print powers of 2 less than n

Problem | Submissions | Leaderboard | Discussions

Imagine you are a computer science teacher and one of your students, Ben, is learning about loops and control structures. You decide to give him a problem to work on as practice.

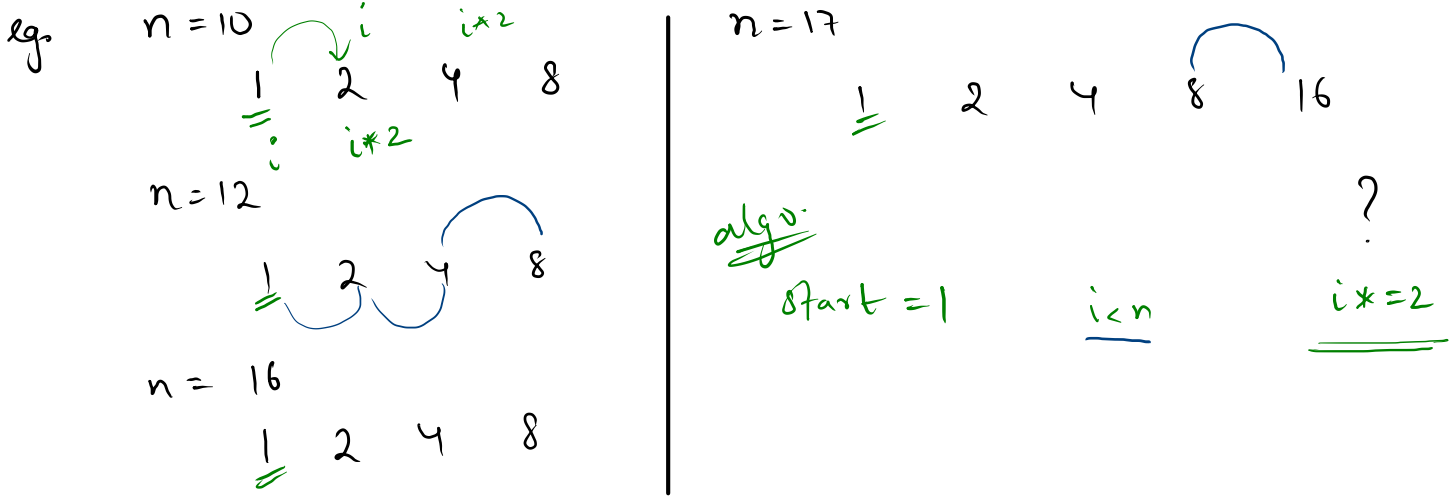
The problem is as follows: Ben needs to write a program that takes in an integer **n** as input and prints out all the **powers of 2** that are less than **n**. For example, if **n** is **10**, the program should print out `1, 2, 4, and 8`.

Sample Input 0

```
20
```

Sample Output 0

```
1 2 4 8 16
```



```java
import java.io.*;
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();
        for(int i = 1; i<n; i *= 2){
            System.out.print(i + " ");
        }
    }
}
```

o/p :

1 2 4 8 16

n = 17

1 2 4 8 16

i = 1 → 1 < 17 ✓

2 → 2 < 17 ✓

4 → 4 < 17 ✓

8 → 8 < 17 ✓

16 → 16 < 17 ✓

32 → 32 < 17 ✗

Print n/3

Problem | Submissions | Leaderboard | Discussions

Imagine Alice is a computer science student and she is trying to understand a concept related to loops. Her friend Bob, who is a computer science professor, gives her the following problem:

"Write a program that takes an integer input from the user. The program should keep dividing the integer by 3 and printing the resultant value on each iteration until the value is greater than 0.

Can you write a solution for this problem?"

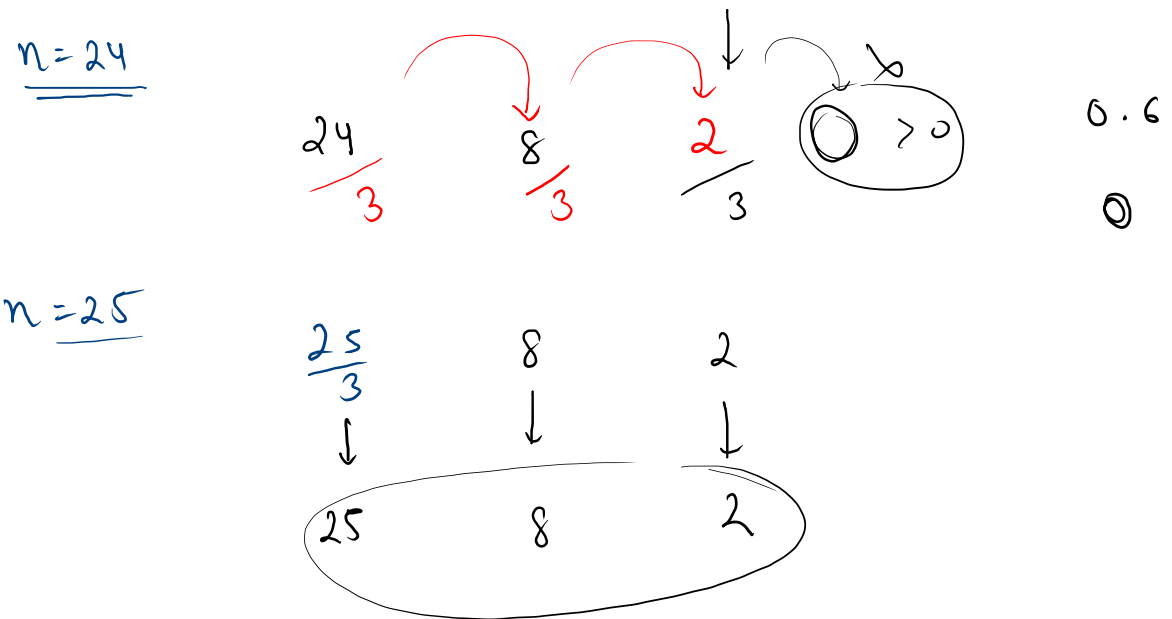
Note: Start printing from **n**, keep on updating **n** by dividing **n** by **3** each time, and print the the updated value of **n** each time.

Sample Input 0

```
24
```

Sample Output 0

```
24 8 2
```



n=24

24 8 2

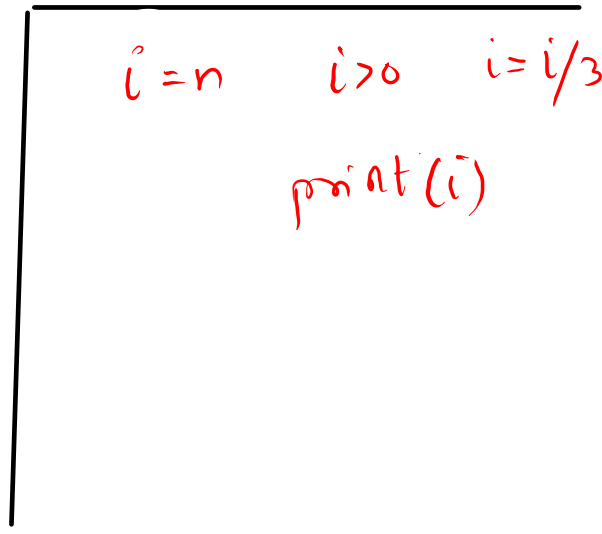
n=30

30 10 3 1

n=25

25 8 2

0>0



```java
import java.io.*;
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();
        for(int i = n; i > 0; i /= 3){
            System.out.print(i + " ");
        }
    }
}
```

n=24

i=24 → 24>0

8 → 8>0

2 → 2>0

0 → 0>0 (false)

24 ... 8 ... 2 ...

Multiples of 3, 5 and Both 3 and 5

Problem | Submissions | Leaderboard | Discussions

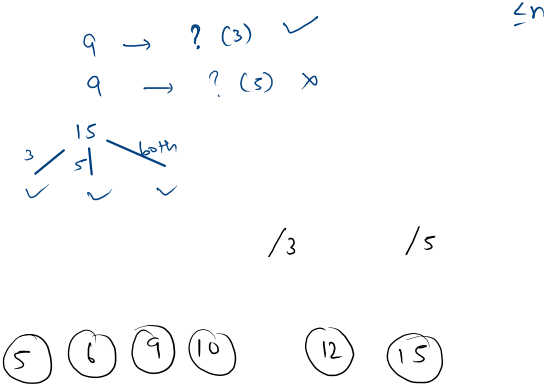
Meet Maria, a math teacher who is preparing a lesson plan for her students. One of the activities she wants to include is a challenge for her students to find all the multiples of 3, 5, and both 3 and 5 within a given range. She has decided to use a program to generate the list of multiples for her students. Can you help Maria write a program that takes in an integer n and returns a list of all the multiples of 3, 5, and both 3 and 5, starting from 1 and going up to n?

Sample Input 0

```
15
```

Sample Output 0

```
3 5 6 9 10 12 15
```




```java
import java.io.*;
import java.util.*;

public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        int n = scn.nextInt();
        for(int i = 1 ; i <= n; i++){
            if(i%3 == 0 || i%5 == 0){
                System.out.print(i + " ");
            }
        }
    }
}
```

fibonacci

0 1 1 2 3 5 .....

next no. = sum of prev 2 no.

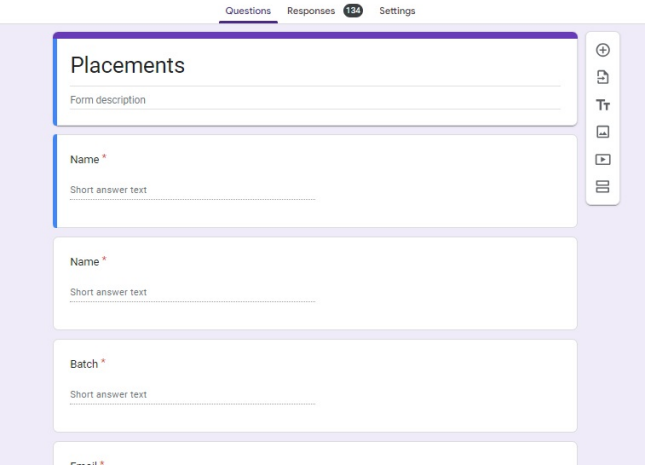
1 1 2 3 5 8 13 .....

$$f(n) = f(n-1) + f(n-2)$$

frontend

backend

database



logic