

# Solution Review: Lists of Even and Odd Numbers

This lesson gives a detailed review of how to print the list of even and odd numbers using the list comprehension.

## WE'LL COVER THE FOLLOWING

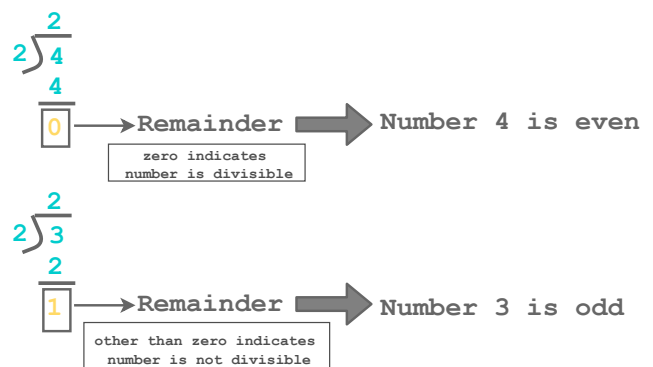
- Solution 1: List Comprehension With Predicate
- Solution 2: List Comprehension

## Solution 1: List Comprehension With Predicate #

As we have already seen in the previous exercise, list comprehensions allow for in-place list creation using a range that mathematical operations can be done on; this solution uses the same approach.

- Use a list comprehension `l1` that iterates over a range of 0-21 and puts an even number in the list if the value is divisible by 2 (using modulus operator). Additionally, use a list comprehension `l2` that iterates over a range of 0-21 and puts an odd number in the list if the value is not divisible by 2.

**Note:** The statement `a % b` evaluates to the **remainder** of the division of variable `a` by variable `b`.



## List of even numbers

variable predicate(optional)

[x for x in range(0,21) if (x % 2==0)]

output expression reference sequence

## List of odd numbers

variable predicate(optional)

[x for x in range(0,21) if (x % 2!=0)]

output expression reference sequence

```
def ListofEvenOdds():  
    l1 = []  
    l2 = []  
    l1 = [x for x in range(0, 21) if (x % 2 == 0)]  
    l2 = [x for x in range(0, 21) if (x % 2 != 0)]  
    return[l1, l2]  
  
print(ListofEvenOdds())
```



## Solution 2: List Comprehension #

- Use a list comprehension l1 that iterates over a range of 0-21 and puts an even number in the list if the value is divisible by 2 (using modulus operator). Additionally, use a list comprehension l2 that iterates over a range of 0-21 and puts an odd number in the list if the value is not in l1.

```
def ListofEvenOdds():  
    l1 = []  
    l2 = []  
    l1 = [x for x in range(0, 21) if (x % 2 == 0)]  
    l2 = [x for x in range(0, 21) if (x not in l1)]  
    return[l1, l2]  
  
print(ListofEvenOdds())
```





Now, let's check your knowledge about list comprehension in the next challenge.