

# Solution Review: Return Even Numbers From 1 to n

Make your own iterator class to return a list of even numbers.

## WE'LL COVER THE FOLLOWING ^

- Solution: Use Iterator

## Solution: Use Iterator #

Notice (in the code below) that the `next` method in lines 8-16 makes a list, then appends the even numbers in that range to the list using a `for` loop.

```
class MyRange:
    def __init__(self, n):
        self.n = n

    def __iter__(self):
        return self

    def next(self):
        evenArray = [] # next method returns this list
        for i in range(1, self.n+1):
            if i % 2 is 0: # checks if number is even
                value = i
                evenArray.append(i) # adds the even number to the list
            else: # number was odd
                i+=1
        return evenArray

myrange = MyRange(8)
print (myrange.next())
```



The figure below illustrates how this is done.

`i = 1`

```
i = 1 % 2
```

```
i = 1 % 2 â0
```

```
i = 2
```

```
i = 2 % 2
```

```
i = 2 % 2 = 0
```

```
i = 2 % 2 = 0
```

2

`i = 3`

2

8 of 29

`i = 3 % 2`

2

9 of 29

`i = 3 % 2` â‡’ 0

2

10 of 29

`i = 4`

2

11 of 29

`i = 4 % 2`

2

12 of 29

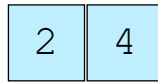
`i = 4 % 2 = 0`

2

4

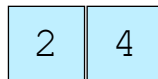
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i = 5



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i = 5 % 2



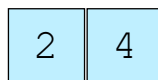
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i = 5 % 2 â0



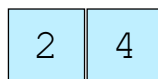
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i = 6



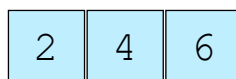
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i = 6 % 2



18 of 29

i = 6 % 2 = 0



19 of 29

`i = 7`

2	4	6
---	---	---

20 of 29

`i = 7 % 2`

2	4	6
---	---	---

21 of 29

`i = 7 % 2` â‡’ 0

2	4	6
---	---	---

22 of 29

`i = 8`

2	4	6
---	---	---

23 of 29

`i = 8 % 2`

2	4	6
---	---	---

24 of 29

`i = 8 % 2 = 0`

2	4	6	8
---	---	---	---

25 of 29

```
i = 9
```

2	4	6	8
---	---	---	---

26 of 29

```
i = 9 = self.n + 1
```

2	4	6	8
---	---	---	---

27 of 29

```
i = 9 = self.n + 1
```

Loop ends

2	4	6	8
---	---	---	---

28 of 29

2	4	6	8
---	---	---	---

29 of 29

—

[ ]

Now, let's try to output numbers from n down to 0 in the next lesson.