

For Loops, Deconstructed

Review

```
MONDAY = 1
```

```
FRIDAY = 5
```

```
SATURDAY = 6
```

```
SUNDAY = 7
```

```
def main():  
    print("Should I go to school?")  
    day = int(input("Enter a day: "))  
    if day >= MONDAY and day <= FRIDAY:  
        print("School day")  
    elif day == SATURDAY or day == SUNDAY:  
        print("Weekend!")  
    else:  
        print(str(day) + " is not a day!")
```

```
if __name__ == '__main__':  
    main()
```

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MONDAY = 1
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SATURDAY = 6
SUNDAY = 7
```

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```
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```

Operator	Example	Result
not	not (2 == 3)	True
and	(2 == 3) and (-1 < 5)	False
or	(2 == 3) or (-1 < 5)	True


```
def main():
    number = int(input("Enter a year: "))

    correct = not number < 0 and number <= 2020 or number > 2019 and number != 2021

    print(correct)
```

```
number = 2021
```

```
def main():  
    number = int(input("Enter a year: "))  
  
    correct = not number < 0 and number <= 2020 or number > 2019 and number != 2021  
  
    print(correct)
```

```
number = -5
```

```
def main():  
    number = int(input("Enter a year: "))  
  
    correct = not number < 0 and number <= 2020 or number > 2019 and number != 2021  
  
    print(correct)
```

```
number = 2020
```

```
def main():  
    number = int(input("Enter a year: "))  
  
    correct = not number < 0 and number <= 2020 or number > 2019 and number != 2021  
  
    print(correct)
```

```
number = 15
```

```
def main():  
    number = int(input("Enter a year: "))  
  
    correct = not number < 0 and number <= 2020 or number > 2019 and number != 2021  
  
    print(correct)
```

```
def main():  
    number = int(input("Enter a year: "))  
  
    correct = not number < 0 and number <= 2020 or number > 2019 and number != 2021  
  
    print(correct)
```

```
"""  
Print the powers of 2 up to 1024  
"""
```

```
MAX = 1024
```

```
def main():  
    number = 1  
  
    while number <= 1024:  
        print(number * 2)
```



```
"""  
Print the powers of 2 up to 1024  
"""
```

```
MAX = 1024
```

```
def main():  
    number = 1  
  
    while number <= 1024:  
        print(number)  
        number *= 2
```

```
.  
1  
2  
4  
8  
16  
32  
64  
128  
256  
512  
1024
```

For Loops

```
for i in range(5):  
    print("CS Bridge is awesome!")
```

CS Bridge is awesome!

CS Bridge is awesome!

CS Bridge is awesome!

CS Bridge is awesome!

CS Bridge is awesome!

```
for i in range(5):  
    print("CS Bridge is awesome!")
```

index variable

```
CS Bridge is awesome!  
CS Bridge is awesome!  
CS Bridge is awesome!  
CS Bridge is awesome!  
CS Bridge is awesome!
```

```
for count in range(5):  
    print("CS Bridge is awesome!")
```

CS Bridge is awesome!

CS Bridge is awesome!

CS Bridge is awesome!

CS Bridge is awesome!

CS Bridge is awesome!

```
for count in range(5):  
    print("CS Bridge is awesome!")
```

What is the value of the index variable?

CS Bridge is awesome!

CS Bridge is awesome!

CS Bridge is awesome!

CS Bridge is awesome!

CS Bridge is awesome!

```
for i in range(5):  
    print("i = " + str(i))
```

i = 0

i = 1

i = 2

i = 3

i = 4

```
for i in range(5):  
    print("i = " + str(i))
```

Can the range be an expression?

i = 0

i = 1

i = 2

i = 3

i = 4


```
upper_bound = int(input("Enter the upper bound: "))  
for i in range(upper_bound):  
    print("i = " + str(i))
```

Enter the upper bound: 3

i = 0

i = 1

i = 2

```
print("The numbers between 10 and 15:")  
for i in range(10, 16):  
    print("the number is " + str(i))
```

The numbers between 10 and 15:

the number is 10

the number is 11

the number is 12

the number is 13

the number is 14

the number is 15

```
print("The the even numbers between 10 and 14:")  
for i in range(10, 15, 2):  
    print(i)
```

```
print("The the even numbers between 10 and 14:")  
for i in range(10, 15, 2):  
    print(i)
```

```
print("The the even numbers between 10 and 14:")  
for i in range(10, 15, 2):  
    print(i)
```

The the even numbers between 10 and 14:

```
print("The the even numbers between 10 and 14:")  
for i in range(10, 15, 2): i: 10  
    print(i)
```

The the even numbers between 10 and 14:

```
print("The the even numbers between 10 and 14:")  
for i in range(10, 15, 2): i: 10  
    print(i)
```

The the even numbers between 10 and 14:
10

```
print("The the even numbers between 10 and 14:")  
for i in range(10, 15, 2): i: 12  
    print(i)
```

The the even numbers between 10 and 14:
10


```
print("The the even numbers between 10 and 14:")  
for i in range(10, 15, 2): i: 12  
    print(i)
```

The the even numbers between 10 and 14:

10

12

```
print("The the even numbers between 10 and 14:")  
for i in range(10, 15, 2): i: 14  
    print(i)
```

The the even numbers between 10 and 14:

10

12

```
print("The the even numbers between 10 and 14:")  
for i in range(10, 15, 2): i: 14  
    print(i)
```

The the even numbers between 10 and 14:

10

12

14

```
print("The the even numbers between 10 and 14:")  
for i in range(10, 15, 2):  
    print(i)
```

What about the odd numbers between 10 and 14?

The the even numbers between 10 and 14:

10

12

14

```
print("The the odd numbers between 10 and 20:")  
for i in range(11, 21, 2):  
    print(i)
```

The the odd numbers between 10 and 20:

11

13

15

17

19

How to do a countdown?

Countdown from: 5

5

4

3

2

1

START

```
start = int(input("Countdown from: "))
for i in range(start, 0, -1):
    print(i)
print("START")
```

Countdown from: 5

5

4

3

2

1

START

```
for i in range(N):  
    print(i)
```

$i = 0, 1, 2, \dots, N-1$

$i \in \mathbb{N}_0 \wedge i \in \langle 0; N \rangle$


```
for i in range(M, N):  
    print(i)
```

$i = M, M+1, M+2, \dots, N-1$

$i \in \mathbb{Z} \wedge i \in \langle M; N \rangle$

```
for i in range(M, N, S):  
    print(i)
```

$i = M, M+S, M+2S, M+3S, \dots$
 $i < N$

Morning Project [[here](#)]



That's Some Sum!

Quickstart

SL Notes

Loop variables



Carbon Dating

Project

SL Notes

Loop variables

Looking for more? Check out the optional [bonus problems!](#)