



JÖNKÖPING UNIVERSITY

School of Engineering

BASICS IN PYTHON, PART 2

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Autumn 2018

REPEATING STATEMENTS

```
print("We wish you a merry Christmas")  
print("We wish you a merry Christmas")  
print("We wish you a merry Christmas")  
print("And a happy new year!")
```

```
We wish you a merry Christmas  
We wish you a merry Christmas  
We wish you a merry Christmas  
And a happy new year!
```

```
print("We wish you a merry Christmas")  
print("And a happy new year!")
```

```
Vi önskar er eder alla  
Vi önskar er eder alla  
Vi önskar er eder alla  
En fröjdefull jul
```

THE FOR LOOP

Can be used to iterate over a sequence of values.

- A list contains a sequence of values.

```
cool_numbers = [4, 7, 3]
for number in cool_numbers:
    print(number)
```

```
4
7
3
```

```
for variable in <expr> :
```

```
    Statement 1
```

```
    Statement 2
```

```
    Statement ...
```

REPEATING STATEMENTS

```
print("We wish you a merry Christmas")  
print("We wish you a merry Christmas")  
print("We wish you a merry Christmas")  
print("And a happy new year!")
```

```
We wish you a merry Christmas  
We wish you a merry Christmas  
We wish you a merry Christmas  
And a happy new year!
```

```
for something in [1, 2, 3]:  
    print("We wish you a merry Christmas")  
print("And a happy new year!")
```

PRACTICAL DEMONSTRATION

REPEATING STATEMENTS

```
print("We wish you a merry Christmas")  
print("We wish you a sad Christmas")  
print("We wish you a good Christmas")  
print("And a happy new year!")
```

```
We wish you a merry Christmas  
We wish you a sad Christmas  
We wish you a good Christmas  
And a happy new year!
```

```
w = "merry"  
print("We wish you a "+w+" Christmas")  
w = "sad"  
print("We wish you a "+w+" Christmas")  
w = "good"  
print("We wish you a "+w+" Christmas")
```

```
words = ["merry", "sad", "good"]  
for w in words:  
    print("We wish you a "+w+" Christmas")  
print("And a happy new year!")
```

REPEATING STATEMENTS

```
number = input("How many times: ")
number = int(number)

for x in range(number) :
    print("We wish you a merry Christmas")
print("And a happy new year!")
```

```
How many times: 4
We wish you a merry Christmas
We wish you a merry Christmas
We wish you a merry Christmas
We wish you a merry Christmas
And a happy new year!
```

Introducing the `range()` function:

- `range(4)` → 0, 1, 2, 3

RANGE

`range(5)` → 0, 1, 2, 3, 4

`range(2, 7)` → 2, 3, 4, 5, 6

`range(7, 2)` → (empty sequence)

`range(2, 7, 3)` → 2, 5

`range(7, 2, -2)` → 7, 5, 3

CREATING A LIST FROM A RANGE

```
range(5) → 0, 1, 2, 3, 4
```

```
print(range(5))
```

```
range(0, 5)
```

```
print(list(range(5)))
```

```
[0, 1, 2, 3, 4]
```

EXAMPLE

Implement this program:

```
Enter a number: 4  
1  
2  
3  
4
```

SUMMARIZING INTEGERS

Compute the sum of 3, 6, 2, and 8.

```
sum = 3 + 6 + 2 + 8
print(sum)
```

```
sum = 0
sum = sum + 3
sum = sum + 6
sum = sum + 2
sum = sum + 8
print(sum)
```

```
numbers = [3, 6, 2, 8]
sum = 0
for number in numbers:
    sum = sum + number
print(sum)
```

EXAMPLE

Implement this program:

```
Enter a number: 4
```

```
The sum of the integers between 0 and 4 is 10.
```

EXAMPLE

Implement this program:

```
Enter a number: 4
```

```
The sum of the integers between 1000 and 1004 is 4010.
```