

AP CSP

Unit 5:

Data Manipulation

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“Our data analysis experts can’t read your minds. You’re going to reach your own decision regarding hiring us, even though it’s the same decision we knew in advance you’d make.”

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Python Everywhere
Textbook



<https://bit.ly/2gSWKSS>

Python 3.6
Quick Reference



<https://bit.ly/1QbX27o>

Video:
Using files in Python



<https://bit.ly/2TrEAMb>



Computer
is used
today

“We are drowning in information
and starving for knowledge.”

- Rutherford D. Rogers

Python Quick Reference



Selection

```
If (boolean_exp):  
    stmt..  
elif (boolean_exp):  
    stmt...  
else  
    stmt...
```

Repetition (while)

```
while (boolean_exp):  
    stmt...
```

Repetition (for counting loop)

```
for variable in range(start, end, step):  
    stmt...
```

Input/Output

```
print()  
variable = input("message")
```

Random Numbers

```
import random  
integer_variable=random.randint(min,max)  
float_variable=random.random() #0.0-1.0
```

Casting Variable Types

```
integerVariable = int(otherTypeValue)  
floatVariable = float(otherTypeValue)  
stringVariable = str(otherTypeValue)
```

Functions

Set up function

```
def functionName(parameters)  
    function body...
```

Call function

```
if a return: variable = functionName(values)  
if no return: functionName(values)
```

Files

```
variable = open("filename", "mode")
```

Modes: "w" = write
 "r" = read
 "a" = append

To Read:

```
variable.read()  
variable.readline()
```

To Write:

```
variable.write()  
variable.writeline()
```

Lists

using a list

```
thislist = ["item1", "item2", "item3"]  
for i in range(startValue, endValue):  
    print(thisList[i])
```

add items to list:

```
append("item") #adds to the end  
insert(location, "item") #adds at location
```

