



# Python: The Easy Way

Lecture 2

# Data Structures



# lists



A collection of various data  
types

```
newList = []
```

```
newList = [1, "hi", True]
```

```
newList[0] #1
```

```
newList[1] #"Hi"
```

```
newList[2] #True
```

```
newList[3] #Index Error
```



# Methods

```
myList = ["C", "JavaScript", "Python", "Java", "php"];
```



```
myList.pop(4)
```



# Methods

```
myList = ["C", "JavaScript", "Python", "Java", "php"];
```



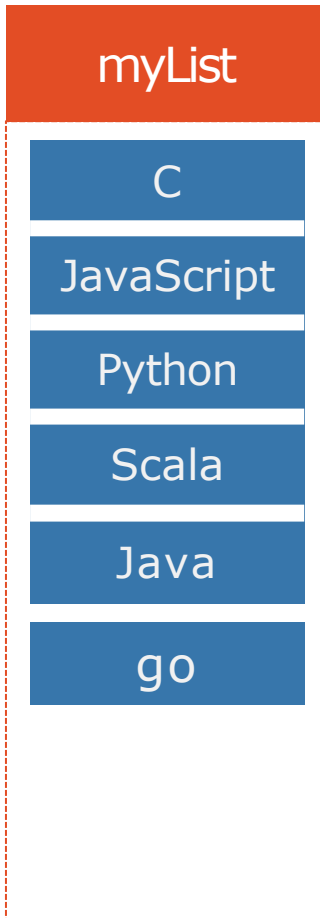
```
myList.pop(4)
```

```
myList.append("go")
```



# Methods

```
myList = ["C", "JavaScript", "Python", "Java", "php"];
```



```
myList.pop(4)
```

```
myList.append("go")
```

```
myList.insert(3, 'Scala')
```



# Methods

```
myList = ["C", "JavaScript", "Python", "Java", "php"];
```



```
myList.pop(4)
```

```
myList.append("go")
```

```
myList.insert(3, 'Scala')
```

```
myList.remove("C")
```





# Methods

```
myList = ["C", "JavaScript", "Python", "Java", "php"];
```



```
myList.pop(4)
```

```
myList.append("go")
```

```
myList.insert(3, 'Scala')
```

```
myList.remove("C")
```

```
yourList = ["Ruby", "Rust"];
```

```
myList.extend(yourList)
```



# Tuples

Immutable Lists



Same as Lists but Tuples are immutable

`newTuple = ()`

```
t = (1, "hi", True)
```

```
t[1]
```

```
# hi
```

```
t[1] = 4
```

```
TypeError: 'tuple' object does not support item assignment
```



# Dictionaries

Key/value Pairs



A **key: value** **comma** seperated elements Data Structure

```
newDict = {}
```

```
d = {"name": "Ahmed", "track": "OS"}
```

```
d["name"]
```

```
# Ahmed
```

```
d["name"] = "Ali"
```

```
# {name: "Ali", track: "OS"}
```



# Methods

```
infoDict = {'track': 'OS', 'name': 'Ahmed', 'age': 17}

infoDict.keys() # dict_keys(['track', 'name', 'age'])

'name' in infoDict # True

infoDict.items()

# dict_items([('track', 'OS'), ('name', 'Ahmed'), ('age', 17)])

addInfoDict = {'track': 'SD', 'branch': "Smart"}

infoDict.update(addInfoDict)

#{'track': 'SD', 'name': 'Ahmed', 'age': 17, 'branch': "Smart"}
```

