

JSON Exercise 1: Create a JSON file

In this exercise, you will create a JSON file. Refer to Lecture 3 for tools that you can use to do this. For this exercise, you will create JSON structured data that captures weather forecast data.

Step 1: One day's forecast.

First, you'll need to create an object for one day's forecast. Let's create one for Monday. Remember, objects are enclosed in curly brackets, so we can start with this:

```
{  
  "Monday":  
}
```

We've got a key for "Monday", but no value after the colon. Add another object that will contain the data for the Monday forecast. To do this, we'll need another set of curly brackets:

```
{  
  "Monday": {  
  }  
}
```

Inside the Monday object, let's add a key of "description" with a value of "sunny".

```
{  
  "Monday": {  
    "description": "sunny"  
  }  
}
```

Next, add a "maxTemp" key for the high temperature forecast for that day. Note that you need a comma after the first key/value pair, and that the 22 is not in quotes, because it is a number, not a string.

```
{  
  "Monday": {  
    "description": "sunny",  
    "maxTemp": 22  
  }  
}
```

Now add a "minTemp" key with a value of 20, and a "windSpeed" key with a value of 12.

```
{
  "Monday": {
    "description": "sunny",
    "maxTemp": 22,
    "minTemp": 20,
    "windSpeed": 12
  }
}
```

Finally, add a key called "danger" with a Boolean value of false. (You can imagine that software will check this value, and if "danger" is true, then it will pop up a special alert.)

```
{
  "Monday": {
    "description": "sunny",
    "maxTemp": 22,
    "minTemp": 20,
    "windSpeed": 12,
    "danger": false
  }
}
```

Take your finished JSON and paste it into a JSON formatter at:

<http://www.freeformatter.com/json-formatter.html>.

This will validate that the JSON is the correct syntax and if it is, then it will show you what your JSON will look like when nicely formatted. (Note: make sure the Indentation Level is set to something like "4 spaces per indent". If it is Compact or Java Escaped, it will not look right.)

Finally, compare your JSON to what I came up with at: <http://sdkbridge.com/ud/oneday.json>

Step 2: Three-day forecast

The next step is to create JSON for a three-day forecast. Create a new object with one key of "forecast" and a value that's an array. It should look like this:

```
{
  "forecast": [
  ]
}
```

Right now the array is empty, meaning it is a list with zero items. Copy and paste your Monday forecast into the array.

```
{
  "forecast": [ {
    "Monday": ...
  }
]
}
```

(Where the ... is, you will have the rest of your Step 1 JSON file.)

Now, add a comma after your Monday object, and paste in your object again so that the array has two objects.

Change the values so that the top level key of the new object is "Tuesday" instead of "Monday", the description is "windy", the wind speed is 40, and danger is true. Your JSON will look like this, except that you'll have more data where the ...s are. Make sure you've put the comma and pasted object in the correct place so that it's in the array and not in an object contained in the array.

```
{
  "forecast": [ {
    "Monday": ...
  },
  {
    "Tuesday": ...
  }
]
}
```

Finally, add a third object in the array. It will have a key of "Wednesday", but let's say that we were unable to get a forecast for Wednesday, so the value is going to be null.

Again, validate and format your JSON (<http://www.freeformatter.com/json-formatter.html>).

Finally (and don't peek until you've really tried to figure it out), compare it to mine:

<http://sdkbridge.com/ud/threeday.json>