

```

import json, unittest, datetime

with open("./data-1.json","r") as f:
    jsonData1 = json.load(f)
with open("./data-2.json","r") as f:
    jsonData2 = json.load(f)
with open("./data-result.json","r") as f:
    jsonExpectedResult = json.load(f)

def convertFromFormat1 (jsonObject):

    locationParts = jsonObject['location'].split('/')

    result = {
        'deviceID': jsonObject['deviceID'],
        'deviceType': jsonObject['deviceType'],
        'timestamp': jsonObject['timestamp'],
        'location': {
            'country': locationParts[0],
            'city': locationParts[1],
            'area': locationParts[2],
            'factory': locationParts[3],
            'section': locationParts[4]
        },
        'data': {
            'status': jsonObject['operationStatus'],
            'temperature': jsonObject['temp']
        }
    }

    return result

def convertFromFormat2 (jsonObject):

    date = datetime.datetime.strptime(
        jsonObject['timestamp'],
        '%Y-%m-%dT%H:%M:%S.%fZ'
    )
    timestamp = round(
        (date - datetime.datetime(1970, 1, 1)).total_seconds() * 1000
    )

    result = {
        'deviceID': jsonObject['device']['id'],
        'deviceType': jsonObject['device']['type'],
        'timestamp': timestamp,

```

```
    'location': {
        'country': jsonObject['country'],
        'city': jsonObject['city'],
        'area': jsonObject['area'],
        'factory': jsonObject['factory'],
        'section': jsonObject['section']
    },
    'data': jsonObject['data']
}
```

```
return result
```

```
def main (jsonObject):
```

```
    result = {}
```

```
    if (jsonObject.get('device') == None):
        result = convertFromFormat1(jsonObject)
    else:
        result = convertFromFormat2(jsonObject)
```

```
    return result
```

```
class TestSolution(unittest.TestCase):
```

```
    def test_sanity(self):
```

```
        result = json.loads(json.dumps(jsonExpectedResult))
        self.assertEqual(
            result,
            jsonExpectedResult
        )
```

```
    def test_dataType1(self):
```

```
        result = main (jsonData1)
        self.assertEqual(
            result,
            jsonExpectedResult,
            'Converting from Type 1 failed'
        )
```

```
    def test_dataType2(self):
```

```
        result = main (jsonData2)
```

```
        self.assertEqual(
            result,
            jsonExpectedResult,
            'Converting from Type 2 failed'
        )

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