

JSON

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JSON

In [2]:

```
import json
```

In [3]:

```
wonder_woman = {  
    'name': 'Wonder Woman',  
    'identity': 'Diana Prince',  
    'superpowers': ['super speed', 'telepathy', 'accelerated healing'],  
    'first_appearance': 1941,  
    'gadgets': [  
        {  
            "name": "lasso of truth",  
            "power": "force people to tell the truth"  
        },  
        {  
            "name": "magic bracelets",  
            "power": "avoid bullets"  
        }  
    ]  
}
```

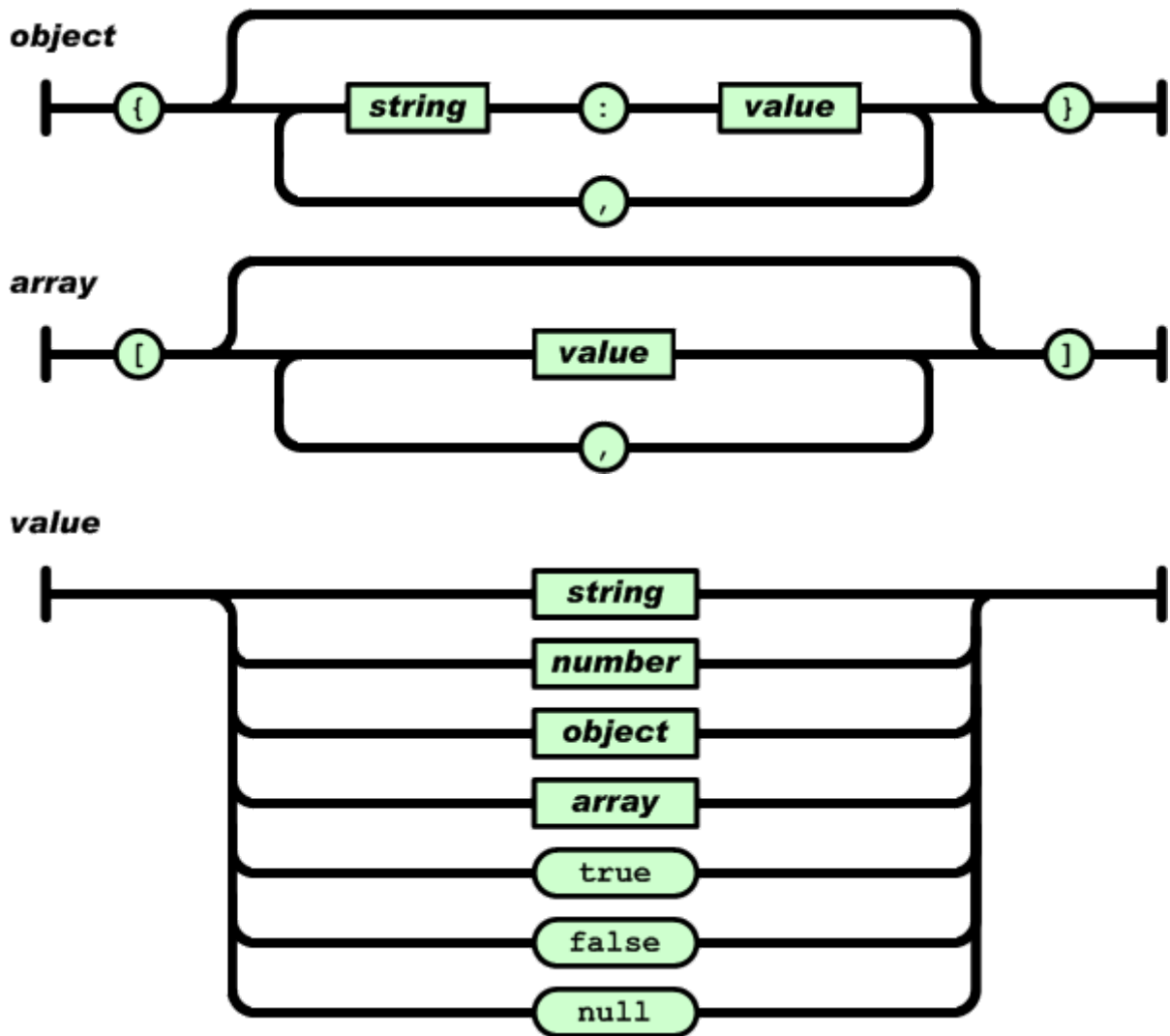
In [4]:

```
wonder_woman
```

Out[4]:

```
{'name': 'Wonder Woman',  
'identity': 'Diana Prince',  
'superpowers': ['super speed', 'telepathy', 'accelerated healing'],  
'first_appearance': 1941,  
'gadgets': [{'name': 'lasso of truth',  
             'power': 'force people to tell the truth'},  
            {'name': 'magic bracelets', 'power': 'avoid bullets'}]}
```

Syntaxe



Objet simple

In []:

```
wonder_woman = {  
    'name': 'Wonder Woman',  
    'identity': 'Diana Prince',  
    'first_appearance': 1941,  
    'height': 183.13,  
    'weight': 74.74  
}
```

Vecteurs

In []:

```
wonder_woman = {  
    'name': 'Wonder Woman',  
    'identity': 'Diana Prince',  
    'first_appearance': 1941,  
    'height': 183.13,  
    'weight': 74.74,  
    'superpowers': ['super speed', 'telepathy', 'accelerated healing'],  
}
```

Objets incorporés

In []:

```
wonder_woman = {  
    'name': 'Wonder Woman',  
    'identity': 'Diana Prince',  
    'first_appearance': 1941,  
    'height': 183.13,  
    'weight': 74.74,  
    'transportation means': {'type': 'jet', 'color': 'invisible'},  
}
```

Réprésentation tabulaire contre JSON

| | Name | Identity | First appearance |
|--|------------------|---------------|------------------|
| | Mister Fantastic | Reed Richards | |
| | Invisible Woman | Susan Storm | |
| | Human Torch | Johnny Storm | 1961 |
| | Thing | Ben Grimm | 1961 |

In [15]:

```
fantastic_4 = [  
    {'name': 'Mister Fantastic',  
     'identity': 'Reed Richards'},  
    {'name': 'Invisible Woman',  
     'identity': 'Susan Storm',  
     'first_appearance': 1961},  
    {'name': 'Human Torch',  
     'identity': 'Johnny Storm',  
     'first_appearance': 1961},  
    {'name': 'Thing',  
     'identity': 'Ben Grimm',  
     'first_appearance': 1961}  
]
```

Serialization

| Python | JSON |
|--------|--------|
| dict | object |
| list | array |
| tuple | array |
| str | string |
| int | number |
| float | number |
| True | true |
| False | false |
| None | null |

In [5]:

```
json.dumps(wonder_woman)
```

Out[5]:

```
'{"name": "Wonder Woman", "identity": "Diana Prince", "superpowers":  
["super speed", "telepathy", "accelerated healing"], "first_appearanc  
e": 1941, "gadgets": [{"name": "lasso of truth", "power": "force peopl  
e to tell the truth"}, {"name": "magic bracelets", "power": "avoid bul  
lets"}]}'
```

In [6]:

```
print(json.dumps(wonder_woman))
```

```
{"name": "Wonder Woman", "identity": "Diana Prince", "superpowers": ["super speed", "telepathy", "accelerated healing"], "first_appearance": 1941, "gadgets": [{"name": "lasso of truth", "power": "force people to tell the truth"}, {"name": "magic bracelets", "power": "avoid bullets"}]}
```

In [7]:

```
#with open('wonder_woman.json', 'w') as ww_file:  
#     json.dump(wonder_woman, ww_file)
```

In [8]:

```
json.dumps(wonder_woman, indent=4)
```

Out[8]:

```
'{\n  "name": "Wonder Woman",\n  "identity": "Diana Prince",\n  "superpowers": [\n    "super speed",\n    "telepathy",\n    "accelerated healing"\n  ],\n  "first_appearance": 1941,\n  "gadgets": [\n    {\n      "name": "lasso of truth",\n      "power": "force people to tell the truth"\n    },\n    {\n      "name": "magic bracelets",\n      "power": "avoid bullets"\n    }\n  ]\n}'
```

In [9]:

```
print(json.dumps(wonder_woman, indent=4))
```

```
{  
  "name": "Wonder Woman",  
  "identity": "Diana Prince",  
  "superpowers": [  
    "super speed",  
    "telepathy",  
    "accelerated healing"  
  ],  
  "first_appearance": 1941,  
  "gadgets": [  
    {  
      "name": "lasso of truth",  
      "power": "force people to tell the truth"  
    },  
    {  
      "name": "magic bracelets",  
      "power": "avoid bullets"  
    }  
  ]  
}
```

In [10]:

```
print(json.dumps(wonder_woman, separators=(',', ':\t'), indent=2))
```

```
{
  "name": "Wonder Woman",
  "identity": "Diana Prince",
  "superpowers": [
    "super speed",
    "telepathy",
    "accelerated healing"
  ],
  "first_appearance": 1941,
  "gadgets": [
    {
      "name": "lasso of truth",
      "power": "force people to tell the truth"
    },
    {
      "name": "magic bracelets",
      "power": "avoid bullets"
    }
  ]
}
```

In [11]:

```
print(json.dumps(wonder_woman, indent=0, sort_keys=True))
```

```
{
  "first_appearance": 1941,
  "gadgets": [
    {
      "name": "lasso of truth",
      "power": "force people to tell the truth"
    },
    {
      "name": "magic bracelets",
      "power": "avoid bullets"
    }
  ],
  "identity": "Diana Prince",
  "name": "Wonder Woman",
  "superpowers": [
    "super speed",
    "telepathy",
    "accelerated healing"
  ]
}
```

Deserialization

| JSON | Python |
|------|--------|
|------|--------|

| | |
|--------|------|
| object | dict |
|--------|------|

| | |
|-------|------|
| array | list |
|-------|------|

| | |
|---------------|-------|
| string | str |
| number (int) | int |
| number (real) | float |
| true | True |
| false | False |
| null | None |

In [12]:

```
# decode is not the "inverse" of encode

fantastic_4 = ('Mister Fantastic', 'Invisible Woman', 'Human Torch', 'Thing')
encoded = json.dumps(fantastic_4)
decoded = json.loads(encoded)

fantastic_4 == decoded
```

Out[12]:

False

In [13]:

```
(type(fantastic_4), type(decoded))
```

Out[13]:

(tuple, list)

In [14]:

```
fantastic_4 == tuple(decoded)
```

Out[14]:

True

In []: