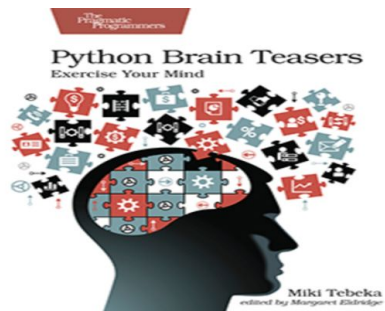
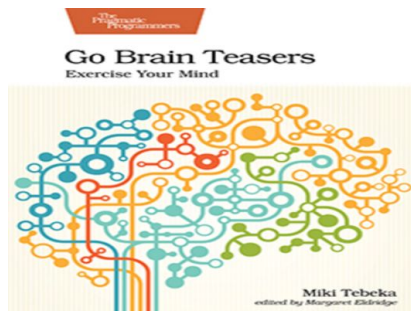
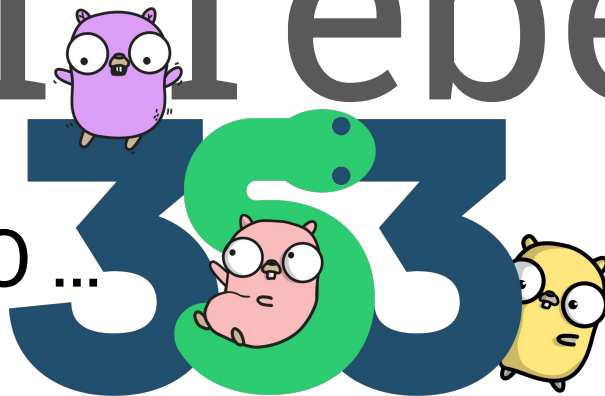


JSON

the fine print

Miki Tebeka

CEO, CTO, UFO ...



Serialization



In computing, **serialization** ... is the process of **translating a data structure or object state into a format that can be stored ... or transmitted ... and reconstructed later** (possibly in a **different computer environment**).

Regular Function Call

```
def add(a, b):  
    return a + b
```

```
val = add(1, 2)
```

Client

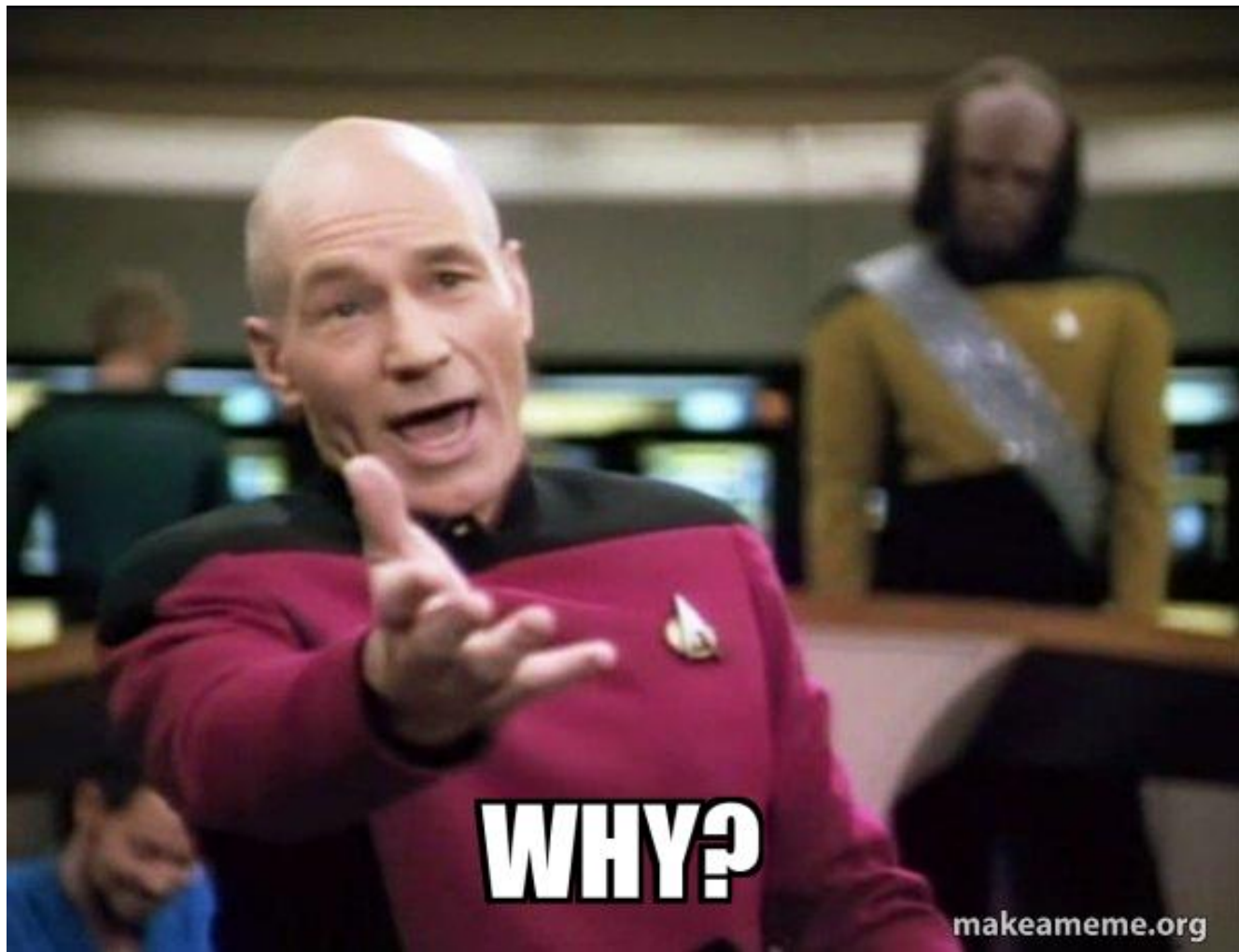
```
request = {  
    'fn': 'add',  
    'args': (1, 2),  
}  
data = json.dumps(request)  
send_to_server(data)
```

Client

```
request = {  
    'fn': 'add',  
    'args': (1, 2),  
}  
data = json.dumps(request)  
send_to_server(data)
```

Client

```
val = json.loads(data)
```



Serialization Formats

- JSON
- XML
- CSV
- YAML
- TOML
- ...
- MessagePack
- Protobuf
- Flat buffers
- Cap'n Proto
- BSON
- ...



https://en.wikipedia.org/wiki/The_Treachery_of_Images

WHY

JSON

makeameme.org

From	To	Medium	Use
Python	JSON	bytes	dumps
JSON	Python	bytes	loads
Python	JSON	File like	dump
JSON	Python	File like	load

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

tuple

```
loc = (32.071517, 34.8445123)
data = json.dumps(loc)
loc2 = json.loads(data)
print(loc == loc2)    # False
```

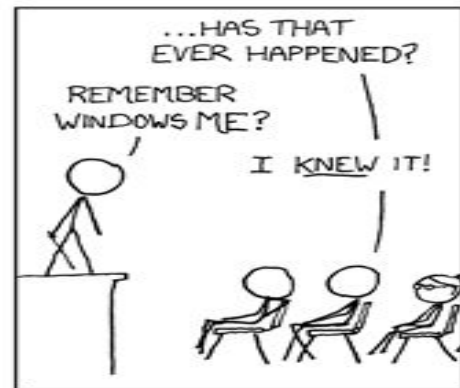
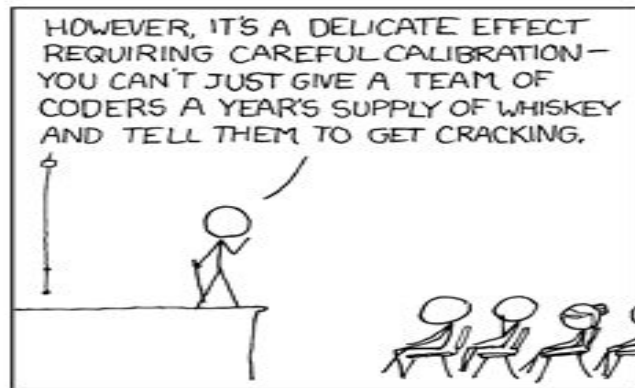
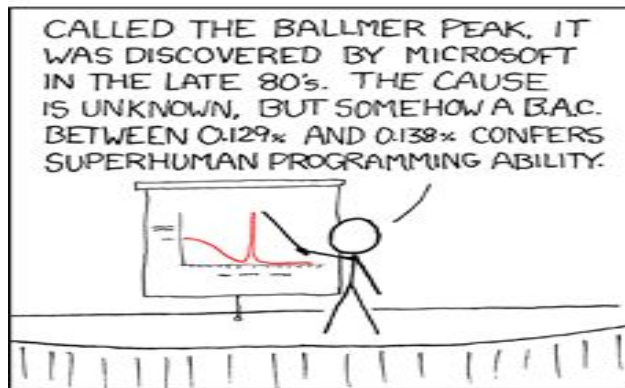
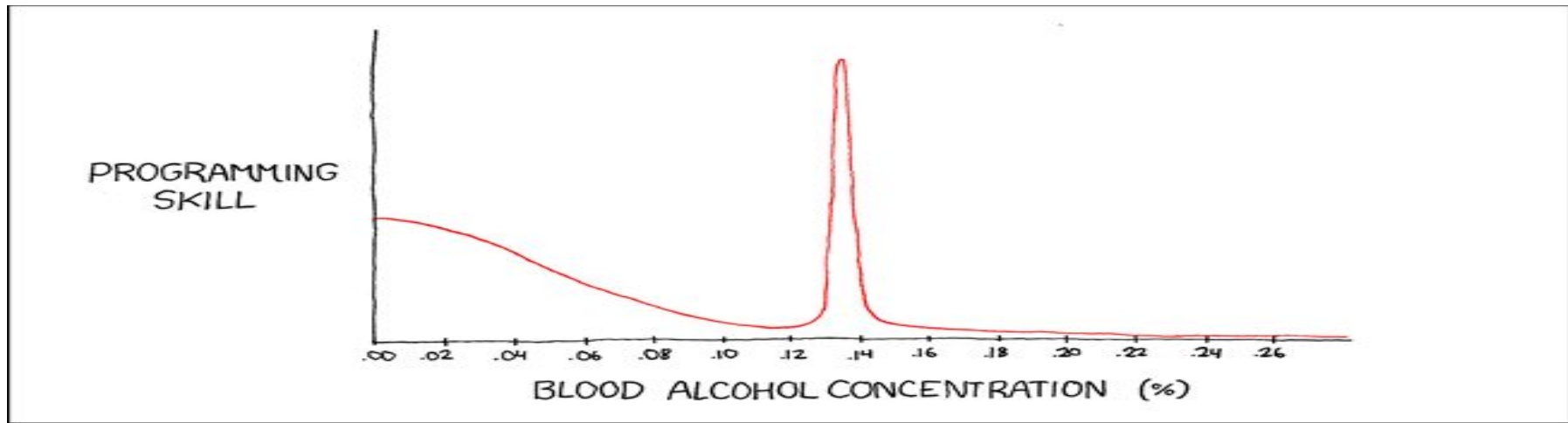
tuple

```
print(loc)  
# (32.071517, 34.8445123)  
print(loc2)  
# [32.071517, 34.8445123]
```

MIA

- datetime
- bytes (binary data)
- set
- ...

Writing a User Store



<https://xkcd.com/323/>

Closing Words

- Use hooks for custom serialization
- Serializes at program “edges”
- Valid JSON << Valid data
- You can do streaming
 - See also [HTTP chunked](#)
- Don't tie internal objects to API

Thank You

[@tebeka](#)

