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In [15]: import numpy as np
import random as rd
import time
```

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In [19]: def pure_python_version():
data = [rd.randint(0, 100) for i in range(0, 10000000)]
sum_value = 0

starttime = time.time()
for i in data:
    sum_value += i
endtime = time.time()

return endtime - starttime

def numpy_version():
data = np.array([rd.randint(0, 100) for i in range(0, 10000000)])
starttime = time.time()
np.sum(data)
endtime = time.time()

return endtime - starttime

t1 = pure_python_version()
t2 = numpy_version()
print("python list exe. time ", t1)
print("numpy ndarray exe. time ", t2)
print("numpy is in this example " + str(t1/t2) + " faster")
```

```
python list exe. time 0.4125230312347412
numpy ndarray exe. time 0.00577998161315918
numpy is in this example 71.37099368889989 faster
```

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In [ ]:
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