

Stream Sampling

Write a stream sampler that picks a random (representative) sample of size k from a stream of values with unknown and possibly very large length.

As for receiving the data the sampler should work with three kinds of inputs:

- Values piped directly into the PHP process
- Values generated using a good random source within PHP
- Values loaded from <http://www.random.org/clients/http/>

Example

Given $k=5$ and the following stream of characters as values

```
THEQUICKBROWNFOXJUMPSOVERTHELAZYDOG
```

a possible random sample could be

```
EMETN
```

```
THEQUICKBROWNFOXJUMPSOVERTHELAZYDOG
0          1          2          3
01234567890123456789012345678901234
```