Mathematics 1550H – Introduction to probability
Trent University, Summer 2016

Assignment #1
Random process?

Consider the following two sequences of one hundred heads and tails:

Sequence #1:

```
HHTHTTTHTHHTTTTHTTHTHTTHHTTHTHHTTHTTTHTHHHHTTTHTTH
HTTTTHTHHHTHTTHTTHHTHTHHTTHHHHTHHHTTTHTTTHTHHHTTHT
```

Sequence #2:

```
HHTHTHTHTHHTHHHTHHHTHHTHHHTTHHTHHTTTHHTHTTTTTTHTTT
THTTTTTTTHHTHTTHHTTTTTHHHTHTTHTTHHTTTHHHTTHHHHTTTT
```

One of these sequences was generated by actually spinning a toonie one hundred times; the other was generated by your instructor sitting at his computer and hitting the "H" and "T" keys one hundred times between them and trying to make it seem random.

1. Try to figure out which sequence was generated by spinning a coin and which was not. Give your reasoning! *[10]*

There once was a breathy baboon
Who always breathed down a bassoon,
  For he said, "It appears
  That in billions of years
I shall certainly hit on a tune."

Sir Arthur Eddington