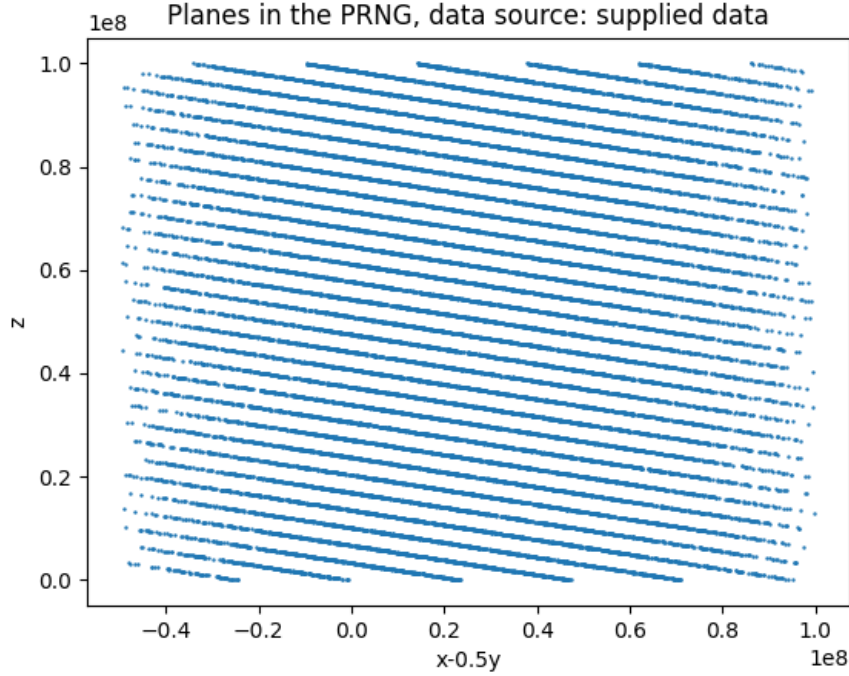


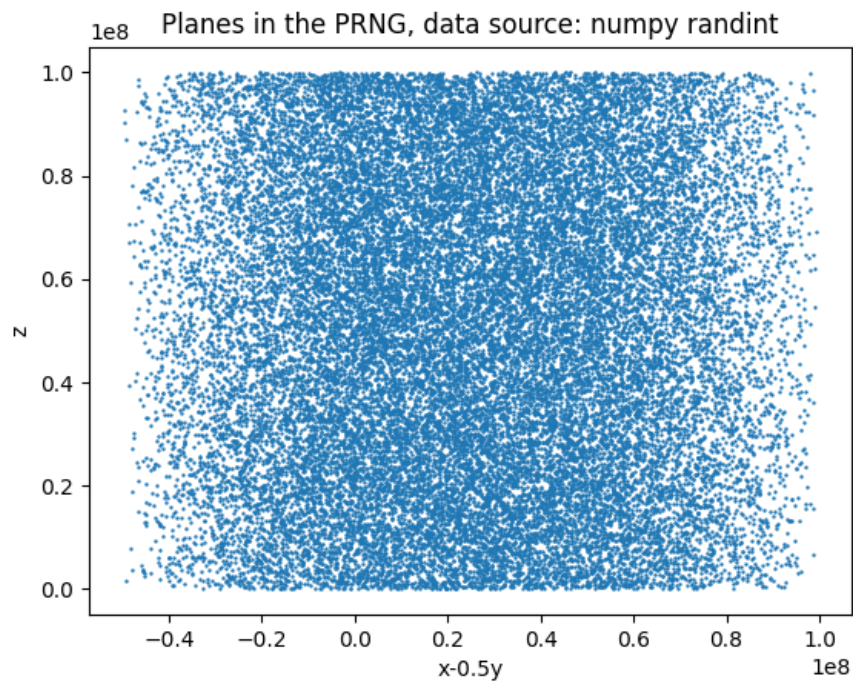
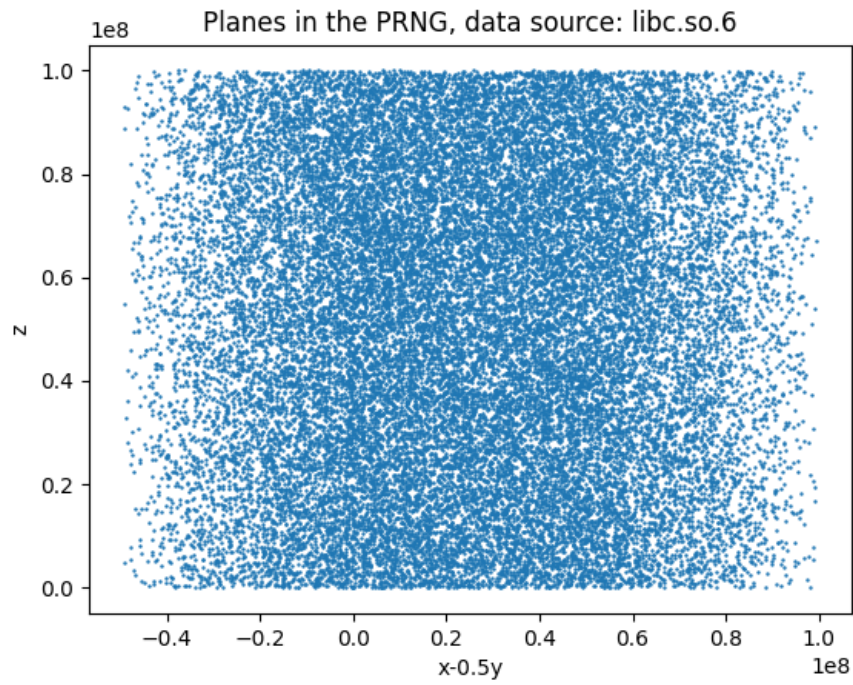
## Problem 1

The library `libc.so(.6)` on Ubuntu does not seem to have the same behaviour, so I could not reproduce the effect. But using the supplied data you can clearly see the random numbers are not quite random.



Where I plotted  $x - 0.5y$  against  $z$  to obtain this result. It's also interesting to notice that even slightly away from these  $(a, b)$  values  $(1, 0.5)$  you still see this pattern, but not as clearly.

To compare, for the `libc.so.6` and `numpy.random.randint()` no matter the rotation you go through the data does not show this sort of patterns.



Note I made sure the data gathering procedure for the numpy version is as similar as possible to the procedure for the libc.so.6.