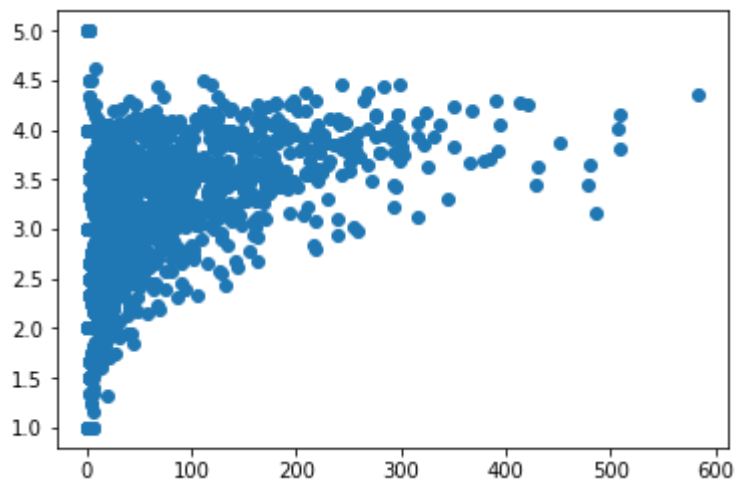
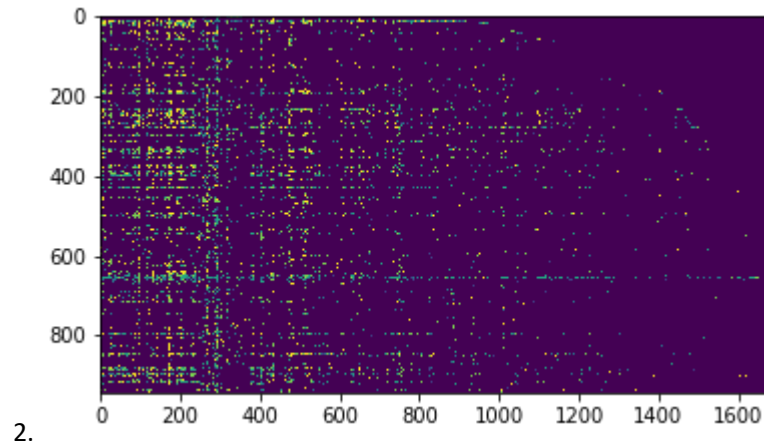


1. 1.1305701864622306
1.1093090680674793
1.0929136610122143
1.0935583679158078
1.1003128650059688



First one is utility matrix and the second one is item of ratings vs item's mean of ratings. From these two pictures, we can see that the missing points are not uniformly distributed in the graph, and the low rating corresponding to low population and high rating corresponding to low population, most people are willing to rate in range of 3.0 to 4.0. Therefore, the missing is not random.