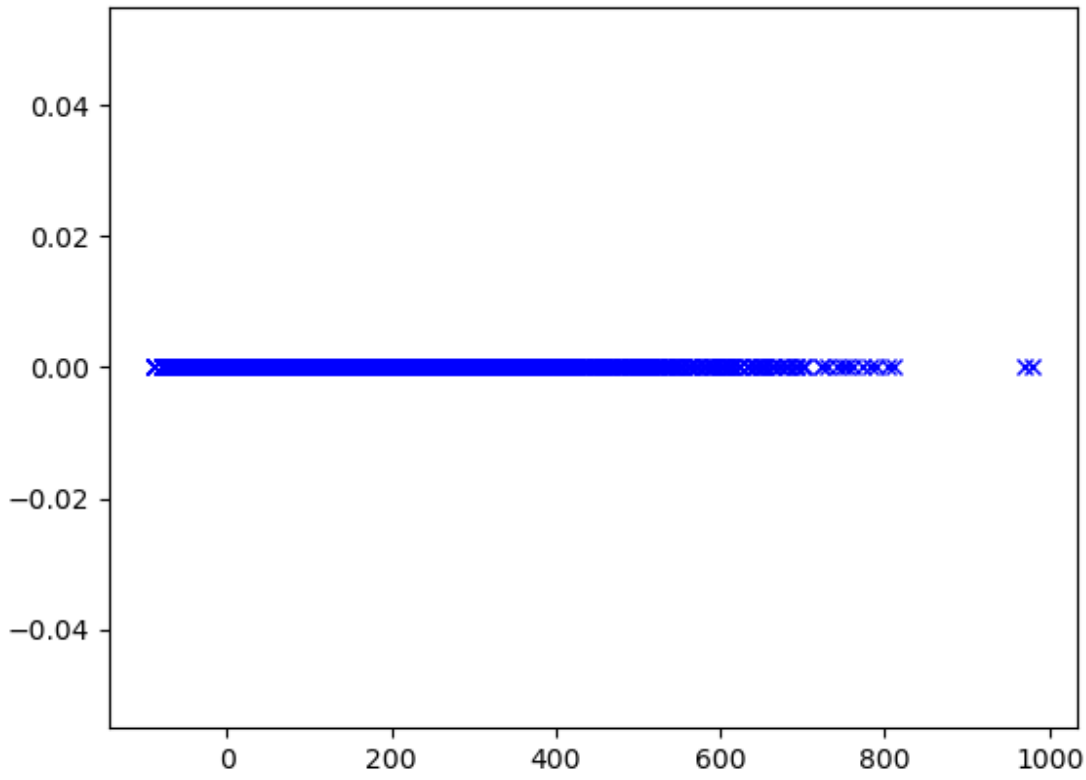
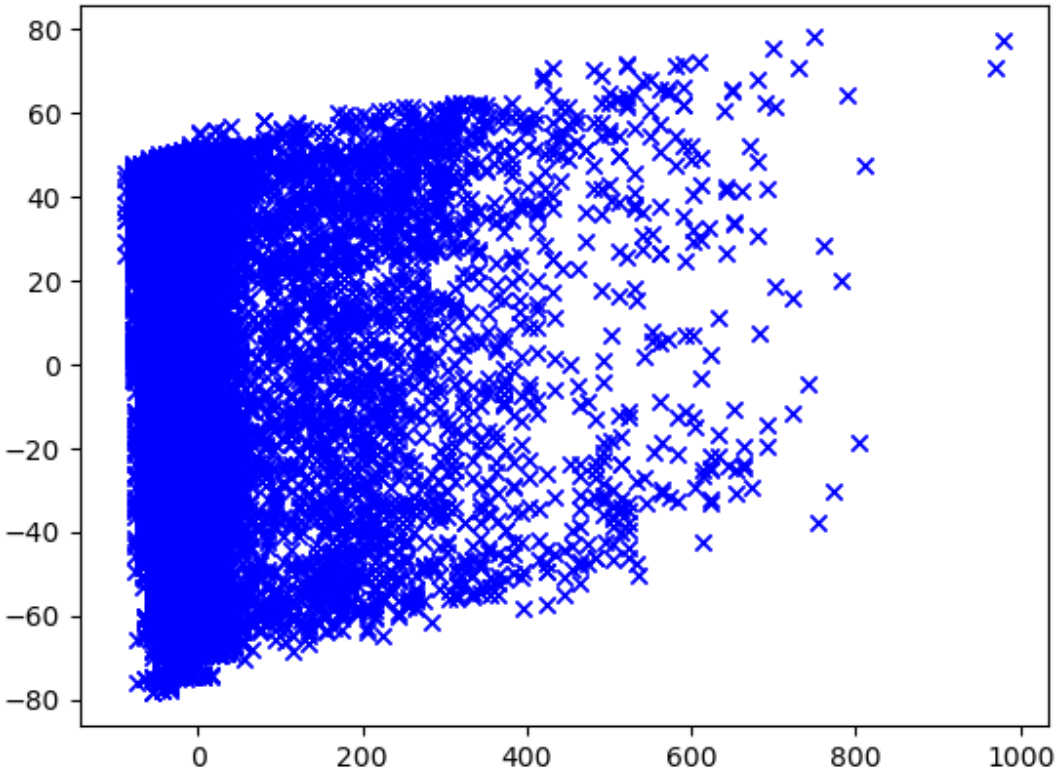
Part I: Principal Components Analysis



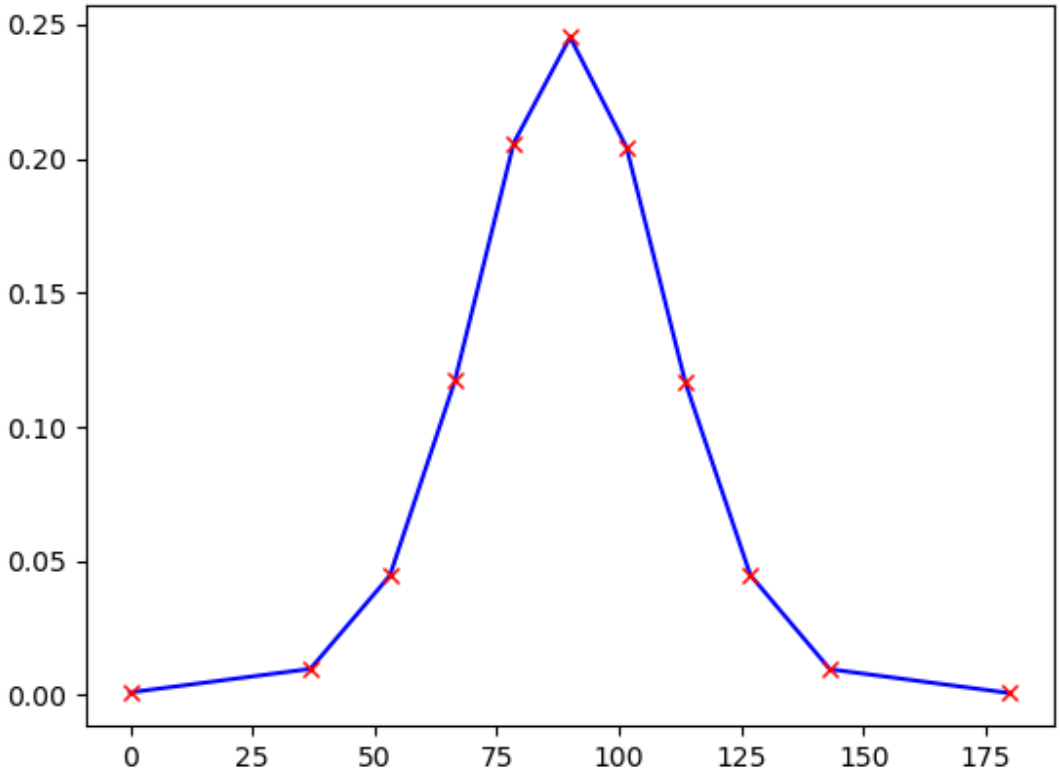
First PC



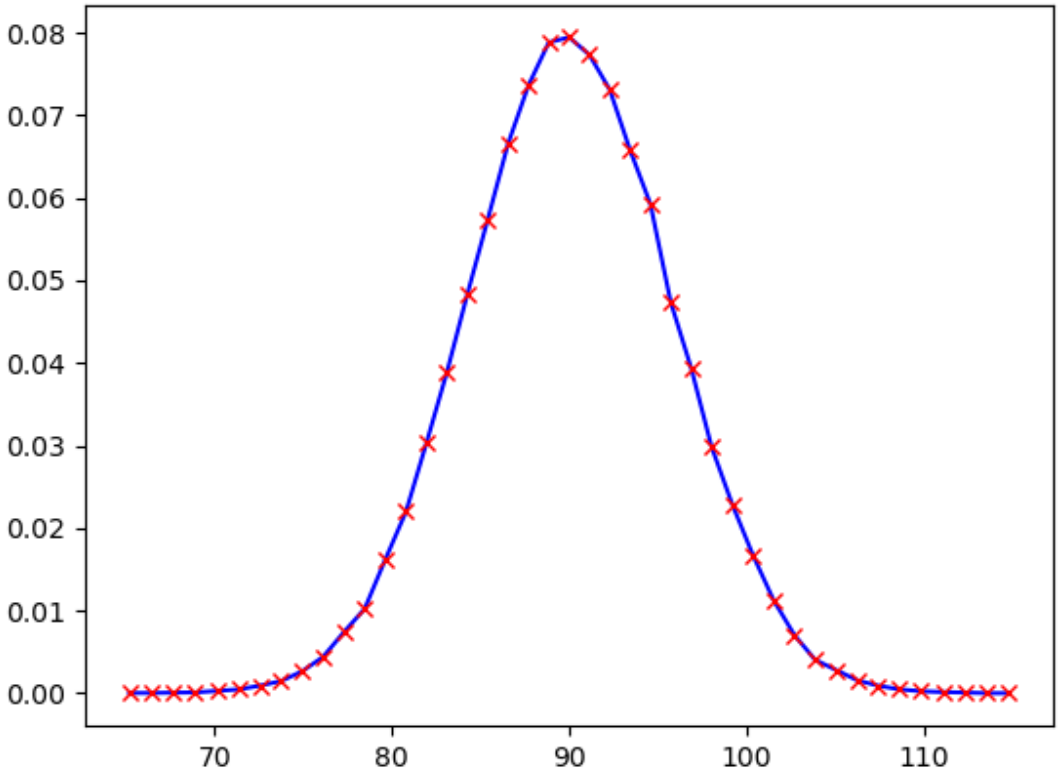
Second PC

Dimensions required: 6
MSE is 603.409 for the third component.

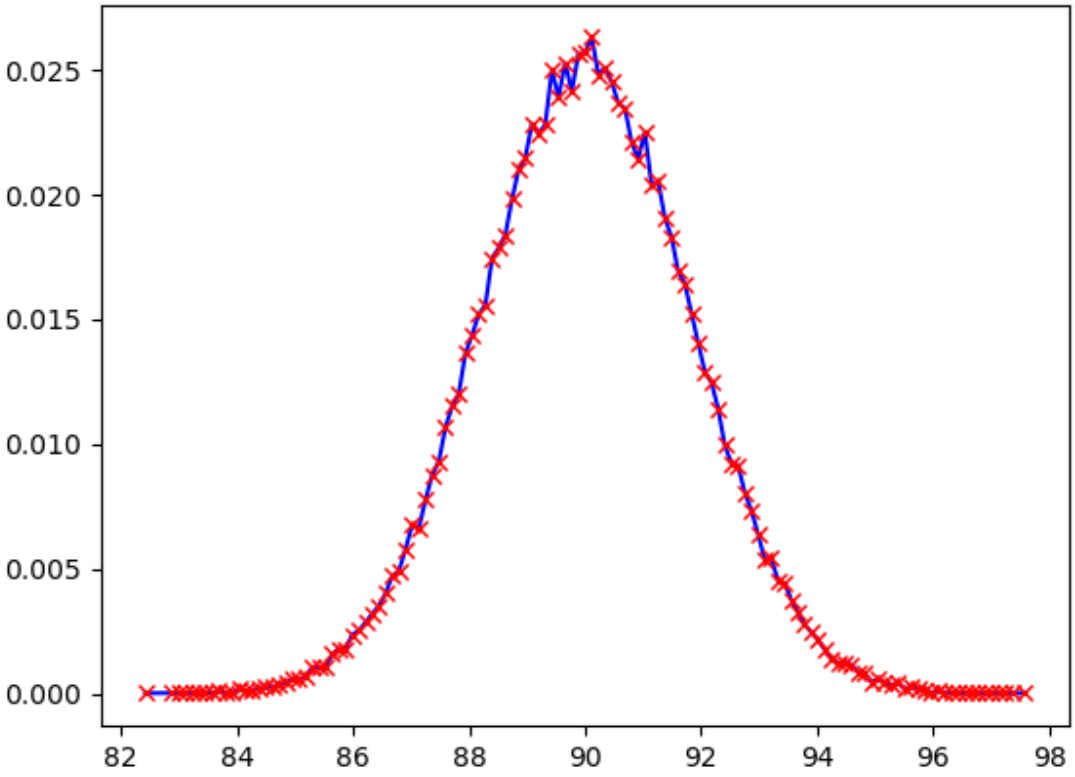
Part II: Diagonals in High Dimensions



min for d = 10 is 1.2074182697257333e-06
max for d = 10 is 179.99999879258172
range for d = 10 is 179.99999758516344
mean for d = 10 is 89.94401504099
variance for d = 10 is 375.834126725823



min for d = 100 is 65.16541251029841
max for d = 100 is 114.83458748970159
range for d = 100 is 49.66917497940318
mean for d = 100 is 90.01566923036
variance for d = 100 is 33.298080691737084



min for d = 1000 is 82.4148200121149
max for d = 1000 is 97.5851799878851
range for d = 1000 is 15.170359975770197
mean for d = 1000 is 90.00021778809736
variance for d = 1000 is 3.2663148403702453