In DS-CDMA, a number of users are able to use the same frequency bandwidth in the same time. Each user's canal is differentiated by a unique code (spread code) used to spread the power of information signal into bandwidth wider the information signal bandwidth. But, the thing commonly happen is that there is correlation between spreader codes used, so users will interference each other. This is very much obtained by the orthogonal levels of spreader code used. In this final paper, a study on comparison of the system performance will be done by using different spreader code. Codes that are used in this study are PN-sequence, Walsh code, Zadoff-Chu code and Golay code. And then, the system performance will also compared when some variables are changed, e.g. on how the system performance correction (BER) when variety and length of code are changed. From the simulation of system performance in the canal condition of AWGN and Rayleigh, the target of BER in voice service of 10-3 is reached in the SNR range of 5-10 dB for Walsh and Golay; PN and Zadoff can not reach BER target. In the worst condition when the canal is in selective condition, Golay code still better than the other codes. System capacity is so much determined by length of spreader code. When the amount of active user approaches length of used spreader code, the system performance will be in saturation point.