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Project 1

**Problem 1**

**Part A:**

Case = P(d) \* N = 0.1 \* 1000 = **100**

**Part B:**

dataIn[] = Generate 1000x200 matrix where 0 = no minor allele and 1 = minor allele

controlMinorAllele[] = binomial distribution with p = 0.25 and n = 1 and size = 900

caseMinorAllele[] = binomial distribution with p = 0.95 and n = 1 and size = 100

hasMinor[] = controlMinorAllele + caseMinorAllele

Assign first index of dataIn to be hasMinor since s1 is the causal SNP

**Part C:**

Using the data generated from above:

For each SNP

Calculate the significance of that SNP

Return the max SNP and compare it to the threshold given by alpha

**Significance =** 20.034537475

**Threshold =** 3.480756

Significance > Threshold so we reject the null hypothesis