PART-A

Number of Purple flowering plants: 705+63=768

Number of Simulations should be 2000-263=1737

1.

Null Hypothesis:

Plants would bear purple or white flowers at random, in the ratio 3:1, regardless of the colors in all the other plants.

Alternate Hypothesis:

Plants would not bear purple or white flowers at random, in the ratio 3:1, that is Mendels model isn’t valid.

H0 : μ = 3/4, (favouring purple flowers 3 out of 4 times) and

Ha : μ != 3/4, (NOT favouring purple flowers 3 out of 4 times).

2.

Since the model predicts 75% purple-flowering plants, a good test statistic to consider would be the difference between 0.75 and the observed proportion of purple-flowering plants.

PART-B

We reject null hypothesis.