stark_project_5.R

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```
#Task
n = 50

rdist = rbinom(n, 1, 0.2)

pobs = sum(rdist/n)

print(pobs)
```

```
## [1] 0.26
```

I think this is a reasonably good enough estimate of the value of p_0 because our value is so similar to the sample proportion that was set from the beginning. It very obviously shows that that the probability of success if the number of successes divided by the number of trials.

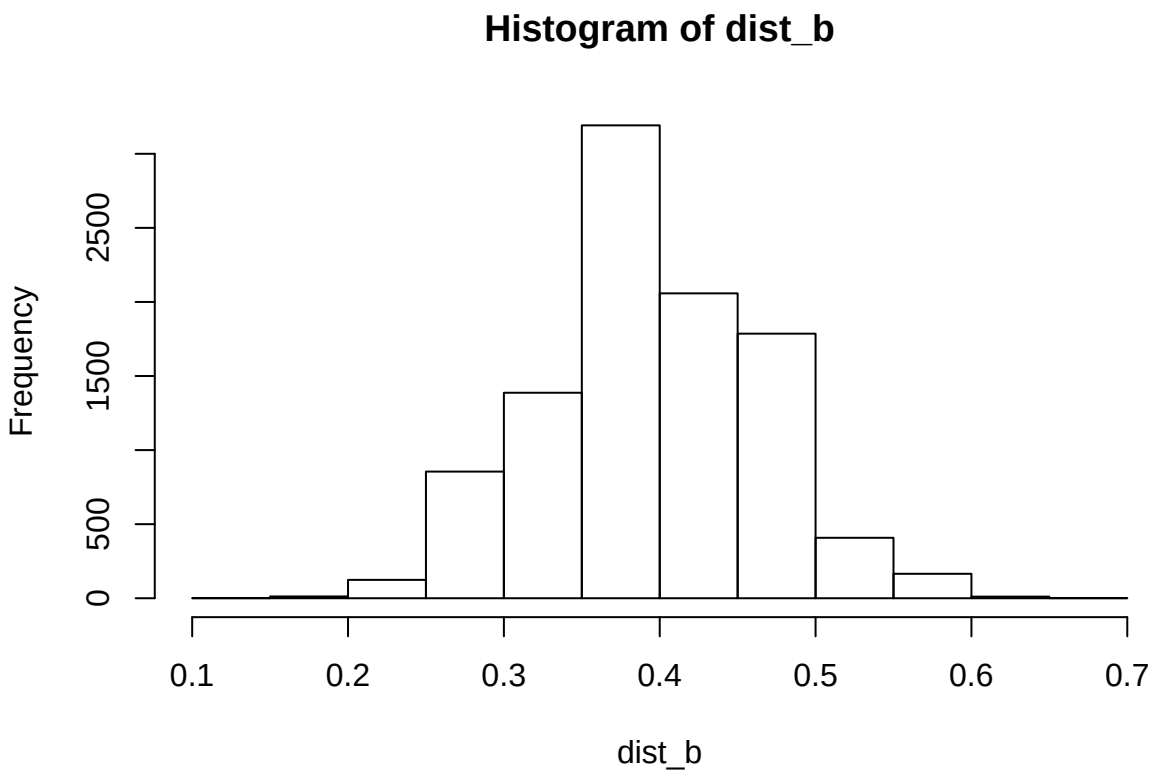
```
#Task 2
```

Using Method A, I think that is a reasonable and simple method for determining that 0.4 is incorrect simple because it is so different from our calculated probability of success.

```
#Method B
dist_b = array(dim = 1,10000)

for(i in 1:10000)
{
  method_dist = rbinom(n, 1, 0.4)
  dist_b[i] = sum(method_dist/n)
}

hist(dist_b)
```




```
rel_freq = 0

for(i in 1:10000)
{
  if(dist_b[i] <= pobs)
  {
    rel_freq = rel_freq + 1
  }
}

rel_prob = rel_freq / 10000

print(rel_prob)
```

```
## [1] 0.0281
```

After gaining a random sampling of 10000 sample proportions, we can see right away based on our graph that the average distripution lies nowhere near our original observed probability of 0.2. We can also see from our relative frequency percentage - the percentage that p<=p_obs, that it is consistently less than 0.1% which is nowhere near a value that warrents us assuming that 0.4 is our probability of success.