1 Question 1

1.a

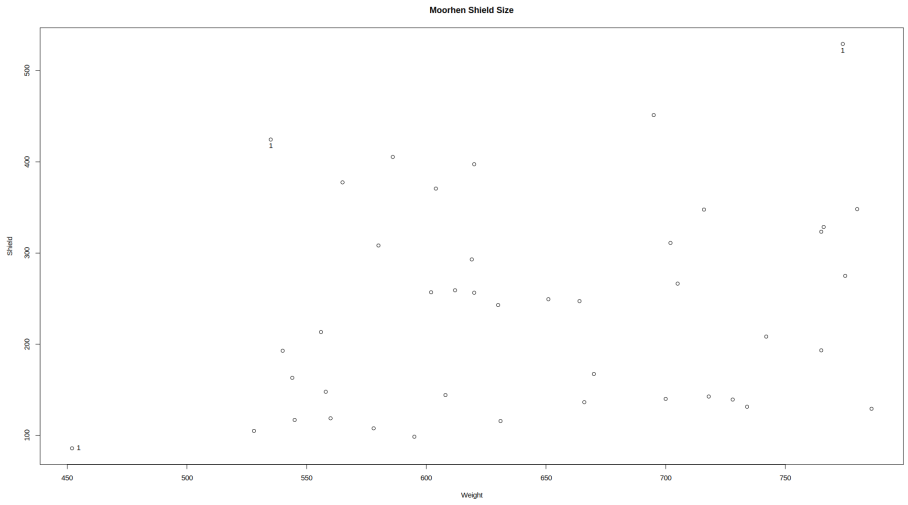

Figure 1: Plot with identified points

- Point ***a*** was chosen because it is by far the lowest weight, and also one of the smallest shield sizes. This moorhen was most likely a juvenile.
- Point ***b*** shows a very large shield size for it's weight class, with larger shields only present in birds more than 100g heavier than this one in particular.
- Point ***c*** was one of the heavier birds, but exhibits the largest shield in the data.

1.b

Visually, there does not appear to be a strong correlation between shield size and weight, however some weak correlation could be argued for, as larger shields mostly show in higher weights.

`cor.test(Weight, Shield)` gives the following output:

```
t = 1.5793, df = 41, p-value = 0.122
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
 -0.06559203  0.50359325
sample estimates:
      cor
0.2394694
```

Hypothesis test: $H_0 : \rho = 0$ vs $H_A : \rho \neq 0$
$t_{95} = 1.58, p > 0.05$, so reject H_A, conclude that ρ is not significantly different from 0. From the command output, we can see that the correlation is approximately 0.24, low enough to be disregarded.