Task D - correlation

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Introduction to Biostatistics

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During a field survey 10 frogs were captured, measured (body length and body mass) and released. Following data were obtained:

Frog	mass	length
1	7	56
2	10	71
3	11	80
4	8	53
5	9	61
6	14	91
7	8	64
8	11	79
9	12	85
10	8	62

Is there any correlation between body mass and length in frogs?

What is the proportion of variability shared by the two variables?

H0: There is no correlation between body mass and length in frogs.

```
frogs<-read.delim("clipboard")
cor.test(frogs$mass, frogs$length)
ggplot(data=frogs, aes(x=mass, y=length))+
  geom_point()+geom_smooth(method="lm", colour=1)+
  labs(x="body mass [g]", y="body length [mm]")
```

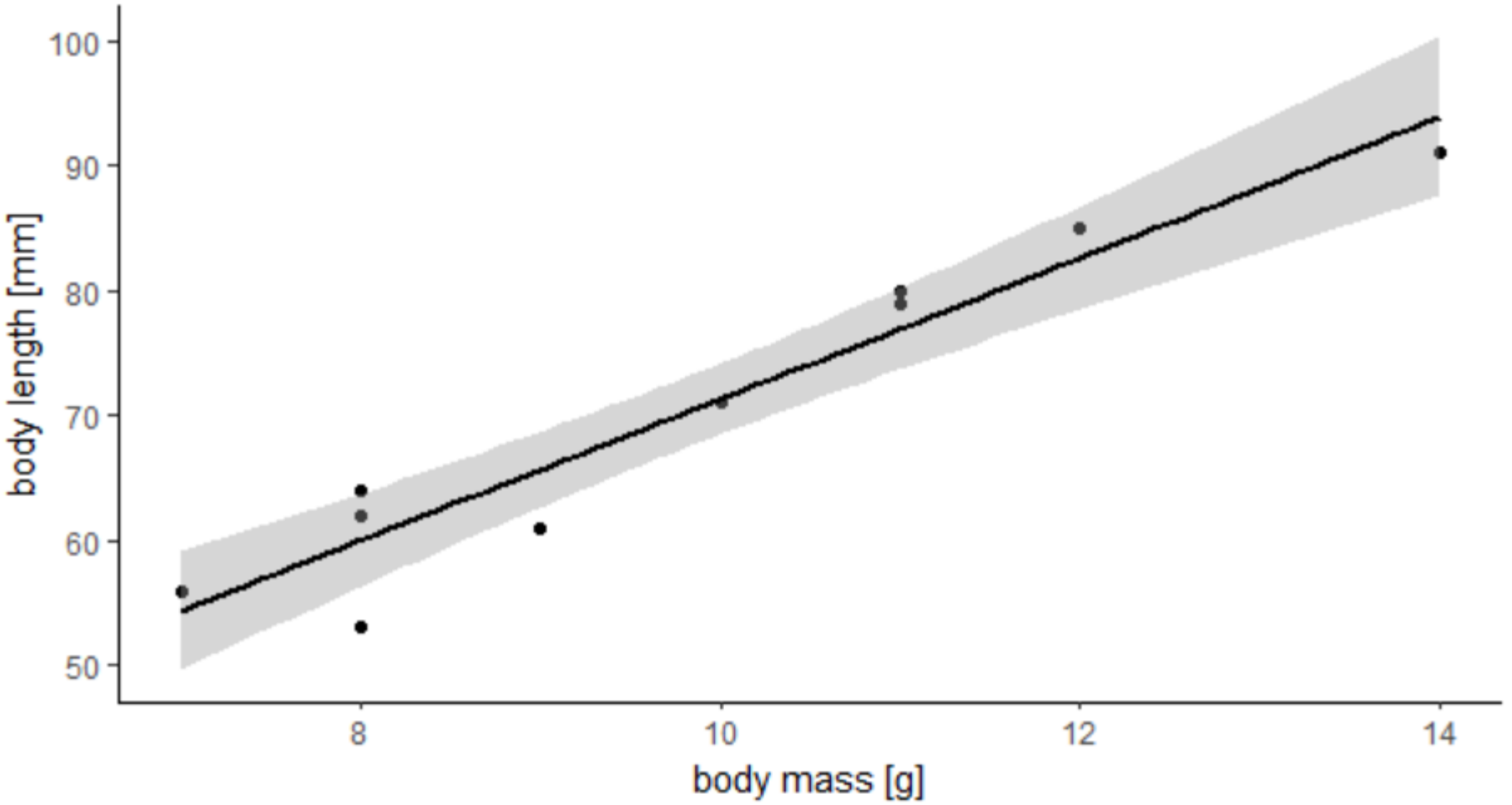
Results and conclusion

Pearson's product-moment correlation

data: frogs$mass and frogs$length
t = 9.5911, df = 8, **p-value = 1.158e-05**
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
 0.8319788 0.9905697
sample estimates:
      cor
0.9591619

There is a correlation…

95% of shared variability…


100
90
80
70
60
50
body length [mm]
8
10
12
14
body mass [g]