

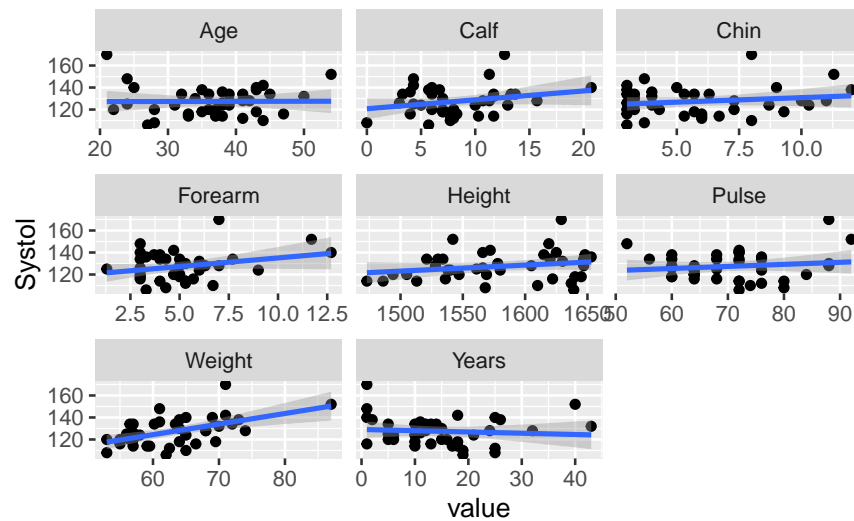
Assignment 6: Under (blood) pressure

MinJae Jo

2025-10-01

Exercise 1

```
## 'geom_smooth()' using formula = 'y ~ x'
```



Exercise 2

- Years graph, the blue regression line tilts slightly down. Therefore, there is a weak negative correlation between Years and Systol.
- Forearm and Calf also show positive slopes, but Weight is the largest and most pronounced. Therefore, the answer is Weight.

Exercise 3

```
blood_pressure_updated <- blood_pressure %>%  
  mutate(urban_frac_life = Years / Age)
```

Exercise 4

```
systol_urban_frac_model <- lm(Systol ~ urban_frac_life, data = blood_pressure_updated)
```

Exercise 5

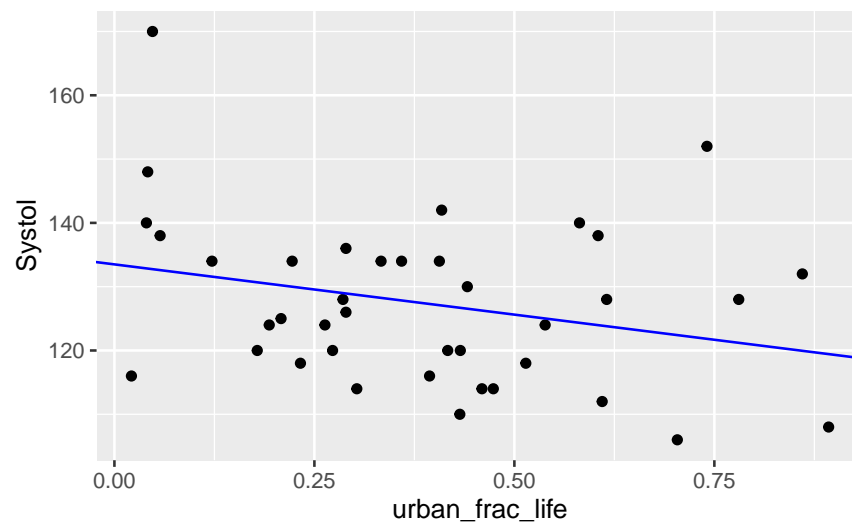
term	estimate	std.error	statistic	p.value
(Intercept)	133.49572	4.038011	33.059770	0.0000000
urban_frac_life	-15.75182	9.012962	-1.747686	0.0888139

r.squared	adj.r.squared	sigma	statistic	p.value	df	logLik	AIC	BIC	deviance	df.residual	nobs
0.0762564	0.0512904	12.769663	0.054406	0.0888139	1	-153.6478	313.29573	318.28646	33.372	37	39

Exercise 6

```
systol_urban_frac_df <- blood_pressure_updated %>%  
  add_predictions(systol_urban_frac_model) %>%  
  add_residuals(systol_urban_frac_model)
```

Exercise 7



Exercise 8

Exercise 9

Exercise 10

Exercise 11

Exercise 12

Academic Integrity statement