

Quiz 5

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```
#### Workspace setup ####
library(tidyverse)

-- Attaching core tidyverse packages ----- tidyverse 2.0.0 --
v dplyr      1.1.4      v readr      2.1.5
v forcats    1.0.0      v stringr    1.5.1
v ggplot2    3.4.4      v tibble     3.2.1
v lubridate  1.9.3      v tidyr      1.3.0
v purrr      1.0.2
-- Conflicts ----- tidyverse_conflicts() --
x dplyr::filter() masks stats::filter()
x dplyr::lag()     masks stats::lag()
i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become
explicit

library(ggplot2)

#Simulate the 20 person height measurement per friend

set.seed(123)

# Simulate data
friends <- c("Rol", "Mike", "Matt", "Jacki", "Ash")
person <- 1:20

simulated_data <- data.frame(
  Friend = rep(friends, each = 20),
  Person = rep(person, times = 5),
  Height = sample(149:182, 100, replace = TRUE)
)
```

simulated_data

	Friend	Person	Height
1	Rol	1	179
2	Rol	2	163
3	Rol	3	162
4	Rol	4	151
5	Rol	5	162
6	Rol	6	173
7	Rol	7	174
8	Rol	8	175
9	Rol	9	153
10	Rol	10	175
11	Rol	11	176
12	Rol	12	157
13	Rol	13	177
14	Rol	14	156
15	Rol	15	174
16	Rol	16	155
17	Rol	17	157
18	Rol	18	167
19	Rol	19	162
20	Rol	20	165
21	Mike	1	160
22	Mike	2	163
23	Mike	3	180
24	Mike	4	155
25	Mike	5	157
26	Mike	6	158
27	Mike	7	171
28	Mike	8	175
29	Mike	9	155
30	Mike	10	175
31	Mike	11	180
32	Mike	12	173
33	Mike	13	182
34	Mike	14	177
35	Mike	15	153
36	Mike	16	156
37	Mike	17	160
38	Mike	18	161

39	Mike	19	166
40	Mike	20	181
41	Matt	1	175
42	Matt	2	173
43	Matt	3	169
44	Matt	4	163
45	Matt	5	174
46	Matt	6	179
47	Matt	7	164
48	Matt	8	178
49	Matt	9	154
50	Matt	10	156
51	Matt	11	170
52	Matt	12	170
53	Matt	13	179
54	Matt	14	165
55	Matt	15	182
56	Matt	16	152
57	Matt	17	161
58	Matt	18	153
59	Matt	19	173
60	Matt	20	170
61	Jacki	1	173
62	Jacki	2	180
63	Jacki	3	173
64	Jacki	4	171
65	Jacki	5	178
66	Jacki	6	160
67	Jacki	7	179
68	Jacki	8	178
69	Jacki	9	162
70	Jacki	10	177
71	Jacki	11	180
72	Jacki	12	155
73	Jacki	13	151
74	Jacki	14	171
75	Jacki	15	163
76	Jacki	16	169
77	Jacki	17	156
78	Jacki	18	158
79	Jacki	19	182
80	Jacki	20	158
81	Ash	1	170

82	Ash	2	160
83	Ash	3	168
84	Ash	4	165
85	Ash	5	178
86	Ash	6	163
87	Ash	7	172
88	Ash	8	171
89	Ash	9	155
90	Ash	10	177
91	Ash	11	163
92	Ash	12	171
93	Ash	13	174
94	Ash	14	180
95	Ash	15	155
96	Ash	16	175
97	Ash	17	153
98	Ash	18	154
99	Ash	19	164
100	Ash	20	172

```
# Test 1
simulated_data$Height|> min() >=149
```

```
[1] TRUE
```

```
simulated_data$Height|> max() ==182
```

```
[1] TRUE
```

```
# Test 2
length(unique(simulated_data$Friend)) == 5
```

```
[1] TRUE
```

```
#Test 3
length(unique(simulated_data$Person)) == 20
```

```
[1] TRUE
```

```
#Bar Graph
```

```
ggplot(simulated_data, aes(x = factor(Person), y = Height, fill = Friend)) +  
  geom_col(position = "dodge") +  
  theme_minimal() +  
  labs(x = "Person", y = "Height", fill = "Friend")
```

