```r
 1 (grades = tibble(
 2   name  = c("Alice", "Bob", "Carol", "Dave"),
 3   hw_1  = c(19, 18, 18, 19),
 4   hw_2  = c(19, 20, 20, 19),
 5   hw_3  = c(18, 18, 18, 18),
 6   hw_4  = c(20, 16, 17, 19),
 7   exam_1 = c(89, 77, 96, 86),
 8   exam_2 = c(95, 88, 99, 82)
 9 ))
10
11
12 grades %>%
13   mutate(
14     hw_avg = (hw_1+hw_2+hw_3+hw_4)/4,
15     exam_avg = (exam_1+exam_2)/2
16   ) %>%
17   mutate(
18     overall = 0.4*(exam_avg/100) + 0.6*(hw_avg/20)
19   )
20
21 tidyr::pivot_longer(grades, cols = hw_1:exam_2,
22                     names_to = "assignment",
23                     values_to = "score")
24
25 tidyr::pivot_longer(grades, cols = hw_1:exam_2,
26                     names_to = c("type", "id"), names_sep = "_",
27                     values_to = "score")
28
29 grades %>%
30   tidyr::pivot_longer(
31     cols = hw_1:exam_2,
32     names_to = c("type", "id"), names_sep = "_",
33     values_to = "score"
34   ) %>%
35   group_by(name, type) %>%
36   summarize(total = sum(score))
37
38 grades %>%
39   tidyr::pivot_longer(
40     cols = hw_1:exam_2,
41     names_to = c("type", "id"), names_sep = "_",
42     values_to = "score"
43   ) %>%
44   group_by(name, type) %>%
45   summarize(total = sum(score)) %>%
46   tidyr::pivot_wider(
47     names_from = type, values_from = total
48   )
49
50 grades %>%
51   tidyr::pivot_longer(
52     cols = hw_1:exam_2,
53     names_to = c("type", "id"), names_sep = "_",
54     values_to = "score"
55   ) %>%
56   group_by(name, type) %>%
57   summarize(total = sum(score)) %>%
58   tidyr::pivot_wider(
59     names_from = type, values_from = total
60   ) %>%
61   mutate(
62     score = 0.6*(hw/80) + 0.4*(exam/200)
63   )
```