WU #4 - Verbs

Monday, September 9, 2024

Math 154 - Jo Hardin

Name: _____

Names of people you worked with: _____

Introduce yourself. What did you do this weekend?

Task: Consider the `diamonds` dataset. Below are 2 tasks which can be accomplished using the following syntax. **Identify the verbs and arguments for accomplishing each task** (the dataset includes the columns `x`, `y`, and `z` which are length, width, and depth in mm). Note, you may not need the last `arrange`, but it won't cause errors. (From **Data Computing**, Daniel Kaplan)

```
diamonds |>
  verb1( args1 ) |>
  verb2( args2 ) |>
  arrange( args3 ) |> head(1)
```

```
head(diamonds,3)
```

```
# A tibble: 3 x 10
  carat cut     color clarity depth table price     x     y     z
  <dbl> <ord>   <ord> <ord>   <dbl> <dbl> <int> <dbl> <dbl> <dbl>
1  0.23 Ideal   E     SI2      61.5    55   326  3.95  3.98  2.43
2  0.21 Premium E     SI1      59.8    61   326  3.89  3.84  2.31
3  0.23 Good    E     VS1      56.9    65   327  4.05  4.07  2.31
```

1. Which color diamond seems to be the largest on average (in terms of carats)? [I use the word "seem" because this is simply one dataset, and maybe it isn't representative of all diamonds. That is, the largest average color in this sample may not be the largest average color in the population.]

2. What is the average price per carat of diamonds that cost more than $10,000?

Solution:

1. Which color diamond seems to be the largest on average (in terms of carats)? [I use the word "seem" because this is simply one dataset, and maybe it isn't representative of all diamonds. That is, the largest average color in this sample may not be the largest average color in the population.]

```
diamonds |>
  group_by( color ) |>
  summarize( avesize = mean(carat) ) |>
  arrange( desc(avesize) ) |> head(1)
```

```
# A tibble: 1 x 2
  color avesize
  <ord>   <dbl>
1 J        1.16
```

2. What is the average price per carat of diamonds that cost more than $10,000?

```
diamonds |>
  filter(price > 10000) |>
  summarise( mean.ppc = mean(price/carat) ) |>
  arrange( desc(mean.ppc) ) |> head(1)
```

```
# A tibble: 1 x 1
  mean.ppc
     <dbl>
1    8044.
```