

```
offset <- .15
```

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offset <- .15  
set.seed(12342)
```

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set.seed(12342)
```

```
c(LETTERS, letters, 1:26)
```

```
[1] "A" "B" "C" "D" "E" "F" "G" "H" "I" "J" "K" "L" "M" "N" "O"  
[16] "P" "Q" "R" "S" "T" "U" "V" "W" "X" "Y" "Z" "a" "b" "c" "d"  
[31] "e" "f" "g" "h" "i" "j" "k" "l" "m" "n" "o" "p" "q" "r" "s"  
[46] "t" "u" "v" "w" "x" "y" "z" "1" "2" "3" "4" "5" "6" "7" "8"  
[61] "9" "10" "11" "12" "13" "14" "15" "16" "17" "18" "19" "20" "21" "22" "23"  
[76] "24" "25" "26"
```

```
offset <- .15
set.seed(12342)
c(LETTERS, letters, 1:26) %>%
  tibble(unit = .)
```

```
# A tibble: 78 x 1
  unit
<chr>
1 A
2 B
3 C
4 D
5 E
6 F
7 G
8 H
9 I
10 J
# ... with 68 more rows
```

```
offset <- .15
set.seed(12342)
c(LETTERS, letters, 1:26) %>%
  tibble(unit = .) %>%
  mutate(unit = fct_inorder(unit))
```

```
# A tibble: 78 x 1
  unit
<fct>
1 A
2 B
3 C
4 D
5 E
6 F
7 G
8 H
9 I
10 J
# ... with 68 more rows
```

```
offset <- .15
set.seed(12342)
c(LETTERS, letters, 1:26) %>%
  tibble(unit = .) %>%
  mutate(unit = fct_inorder(unit)) %>%
  mutate(rank = (1:n())-1)
```

```
# A tibble: 78 x 2
  unit    rank
  <fct> <dbl>
1 A         0
2 B         1
3 C         2
4 D         3
5 E         4
6 F         5
7 G         6
8 H         7
9 I         8
10 J        9
# ... with 68 more rows
```

```

offset <- .15
set.seed(12342)
c(LETTERS, letters, 1:26) %>%
  tibble(unit = .) %>%
  mutate(unit = fct_inorder(unit)) %>%
  mutate(rank = (1:n())-1) %>%
  mutate(rank_q_4 = rank %/% 8)

```

```

# A tibble: 78 x 3
  unit    rank rank_q_4
  <fct> <dbl>   <dbl>
1 A         0         0
2 B         1         0
3 C         2         0
4 D         3         0
5 E         4         0
6 F         5         0
7 G         6         0
8 H         7         0
9 I         8         1
10 J        9         1
# ... with 68 more rows

```

```

offset <- .15
set.seed(12342)
c(LETTERS, letters, 1:26) %>%
  tibble(unit = .) %>%
  mutate(unit = fct_inorder(unit)) %>%
  mutate(rank = (1:n())-1) %>%
  mutate(rank_q_4 = rank %/% 8) %>%
  mutate(rank_r_4 = rank %% 8)

```

```

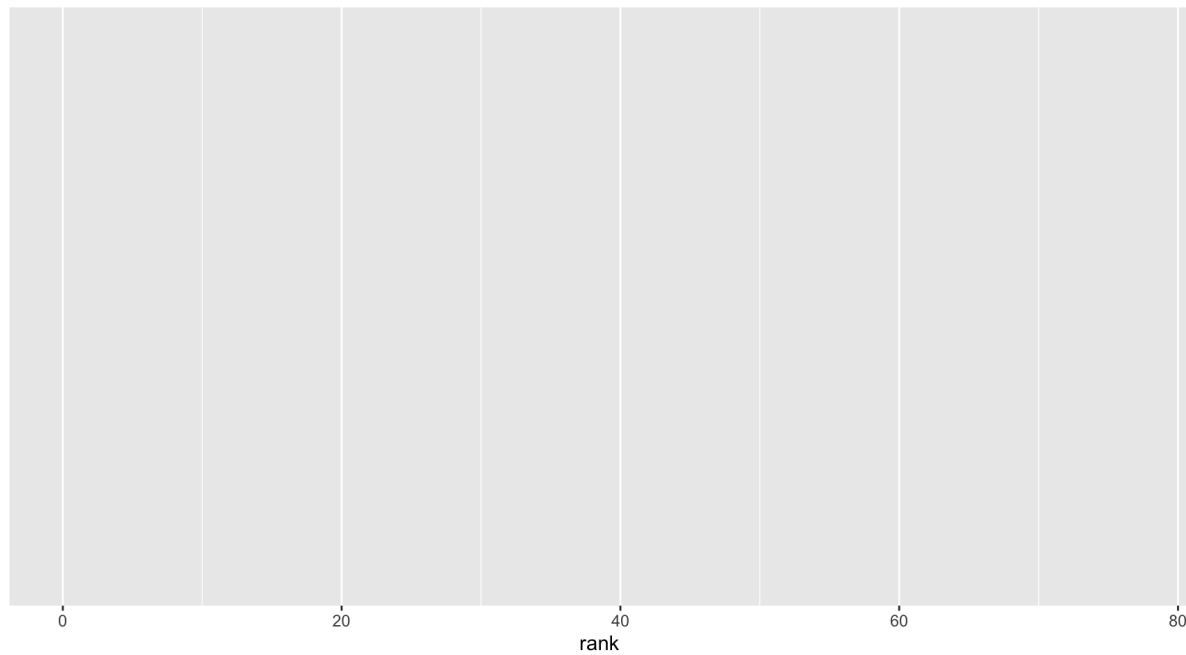
# A tibble: 78 x 4
  unit    rank rank_q_4 rank_r_4
  <fct> <dbl>    <dbl>    <dbl>
1 A         0         0         0
2 B         1         0         1
3 C         2         0         2
4 D         3         0         3
5 E         4         0         4
6 F         5         0         5
7 G         6         0         6
8 H         7         0         7
9 I         8         1         0
10 J        9         1         1
# ... with 68 more rows

```

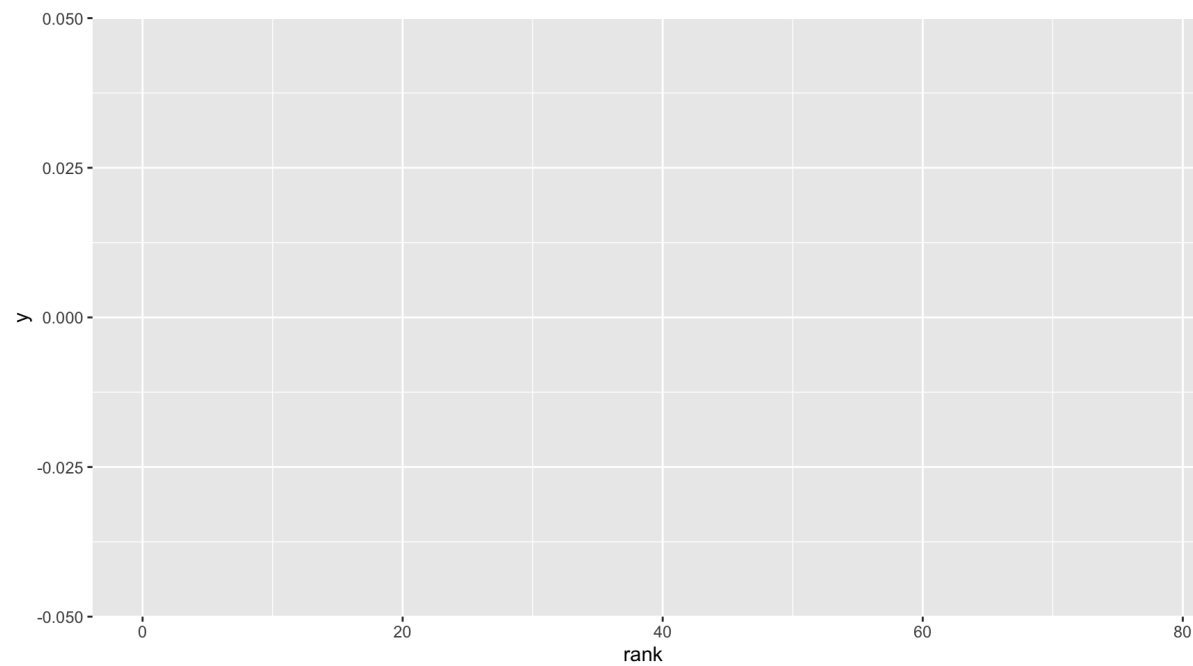


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set.seed(12342)
c(LETTERS, letters, 1:26) %>%
  tibble(unit = .) %>%
  mutate(unit = fct_inorder(unit)) %>%
  mutate(rank = (1:n())-1) %>%
  mutate(rank_q_4 = rank %/% 8) %>%
  mutate(rank_r_4 = rank %% 8) %>%
  ggplot()
```

```
offset <- .15
set.seed(12342)
c(LETTERS, letters, 1:26) %>%
  tibble(unit = .) %>%
  mutate(unit = fct_inorder(unit)) %>%
  mutate(rank = (1:n())-1) %>%
  mutate(rank_q_4 = rank %/% 8) %>%
  mutate(rank_r_4 = rank %% 8) %>%
  ggplot() +
  aes(x = rank)
```



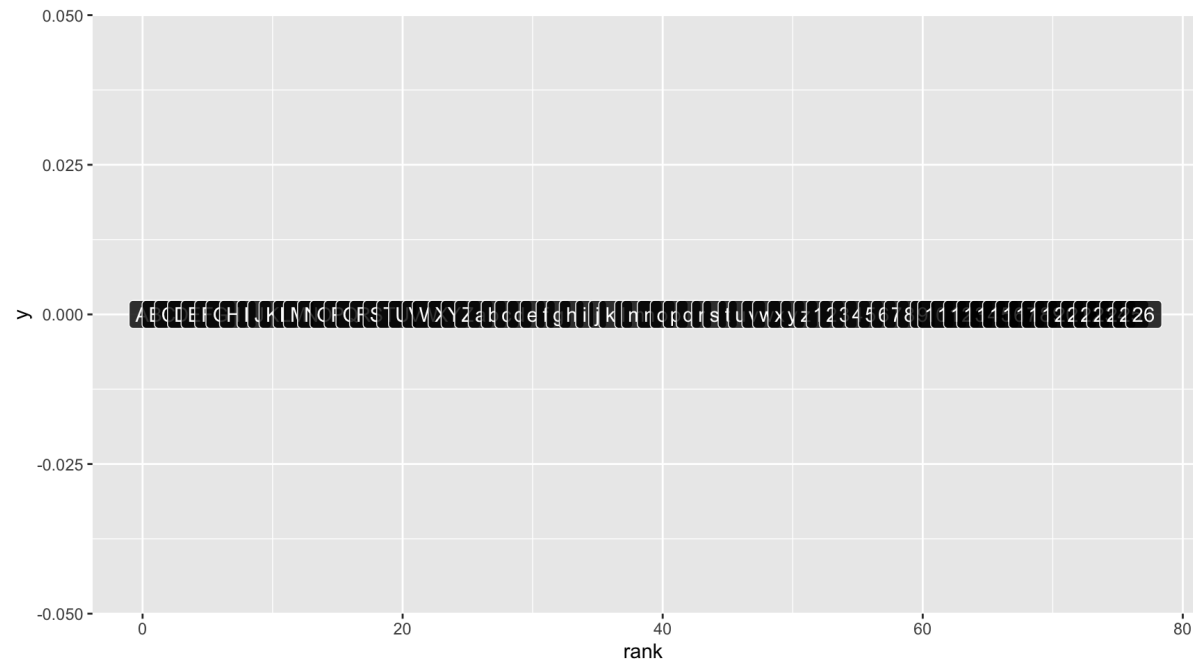
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offset <- .15
set.seed(12342)
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  mutate(unit = fct_inorder(unit)) %>%
  mutate(rank = (1:n())-1) %>%
  mutate(rank_q_4 = rank %/% 8) %>%
  mutate(rank_r_4 = rank %% 8) %>%
  ggplot() +
  aes(x = rank) +
  aes(y = 0)
```



```

offset <- .15
set.seed(12342)
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  tibble(unit = .) %>%
  mutate(unit = fct_inorder(unit)) %>%
  mutate(rank = (1:n())-1) %>%
  mutate(rank_q_4 = rank %/% 8) %>%
  mutate(rank_r_4 = rank %% 8) %>%
  ggplot() +
    aes(x = rank) +
    aes(y = 0) +
    geom_label(aes(label = unit),
              alpha = .8)

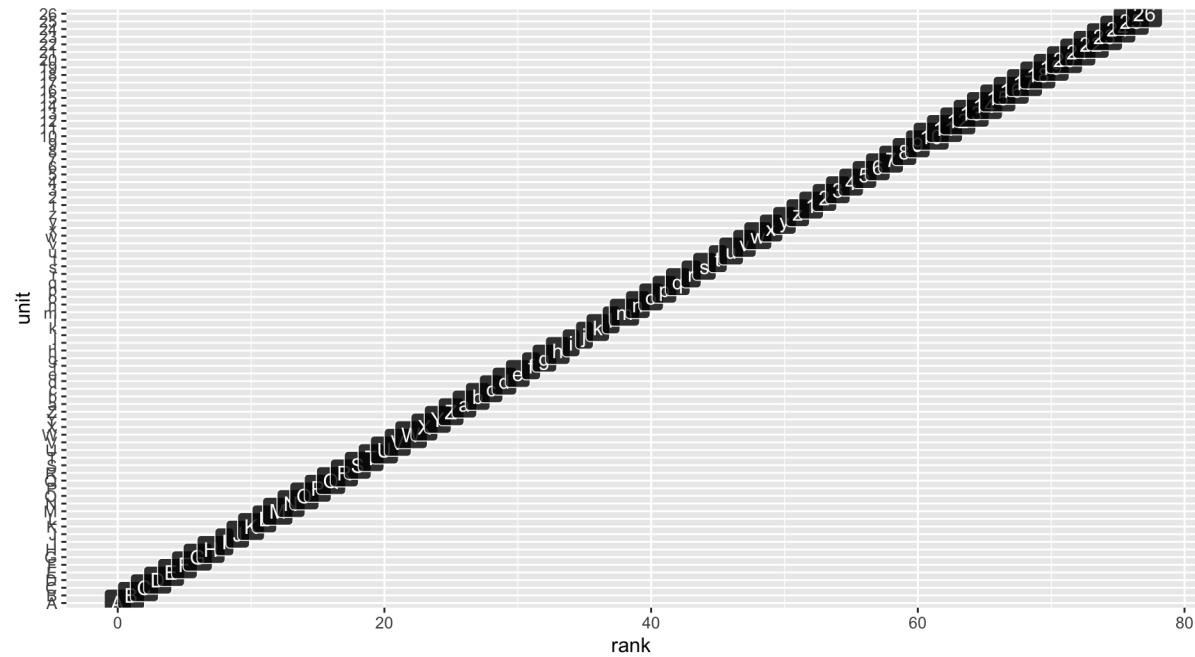
```



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  tibble(unit = .) %>%
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  mutate(rank_r_4 = rank %% 8) %>%
  ggplot() +
    aes(x = rank) +
    aes(y = 0) +
    geom_label(aes(label = unit),
              alpha = .8) +
    aes(y = unit)

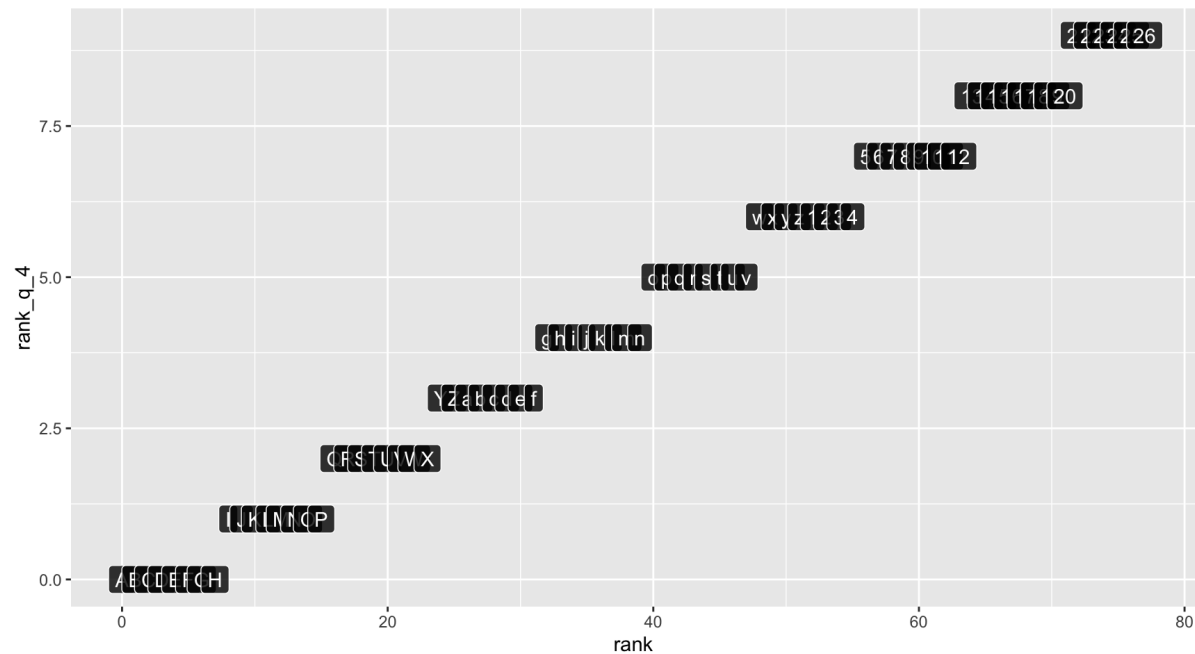
```



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  mutate(rank = (1:n())-1) %>%
  mutate(rank_q_4 = rank %/% 8) %>%
  mutate(rank_r_4 = rank %% 8) %>%
  ggplot() +
    aes(x = rank) +
    aes(y = 0) +
    geom_label(aes(label = unit),
              alpha = .8) +
    aes(y = unit) +
    aes(y = rank_q_4)

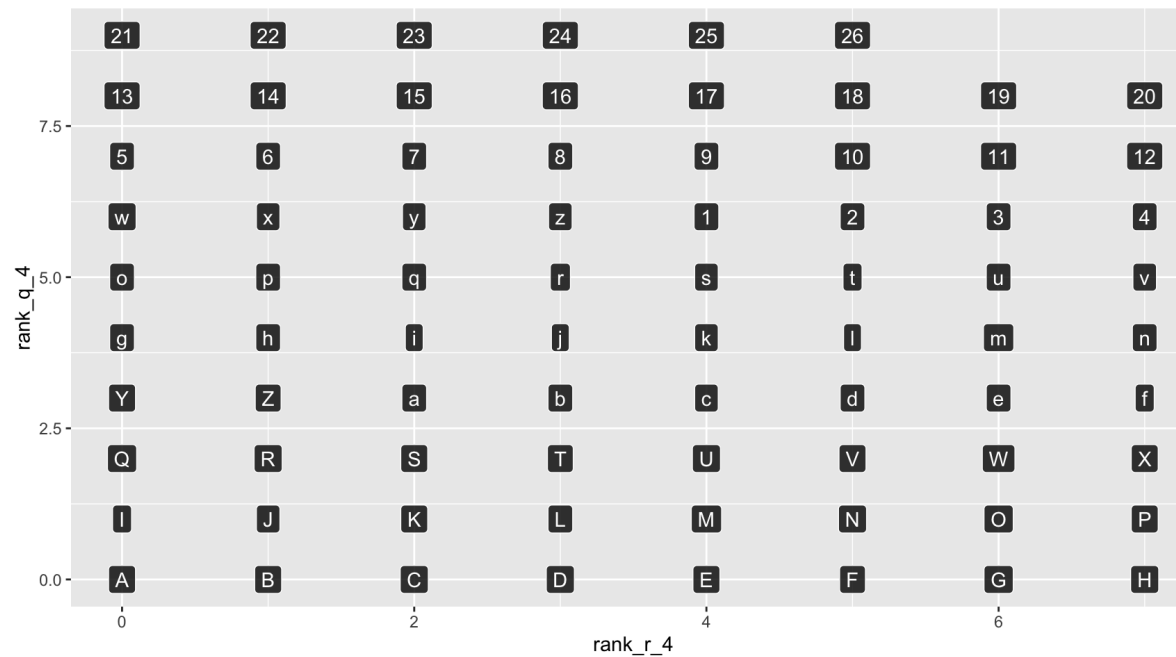
```



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  ggplot() +
    aes(x = rank) +
    aes(y = 0) +
    geom_label(aes(label = unit),
               alpha = .8) +
    aes(y = unit) +
    aes(y = rank_q_4) +
    aes(x = rank_r_4)

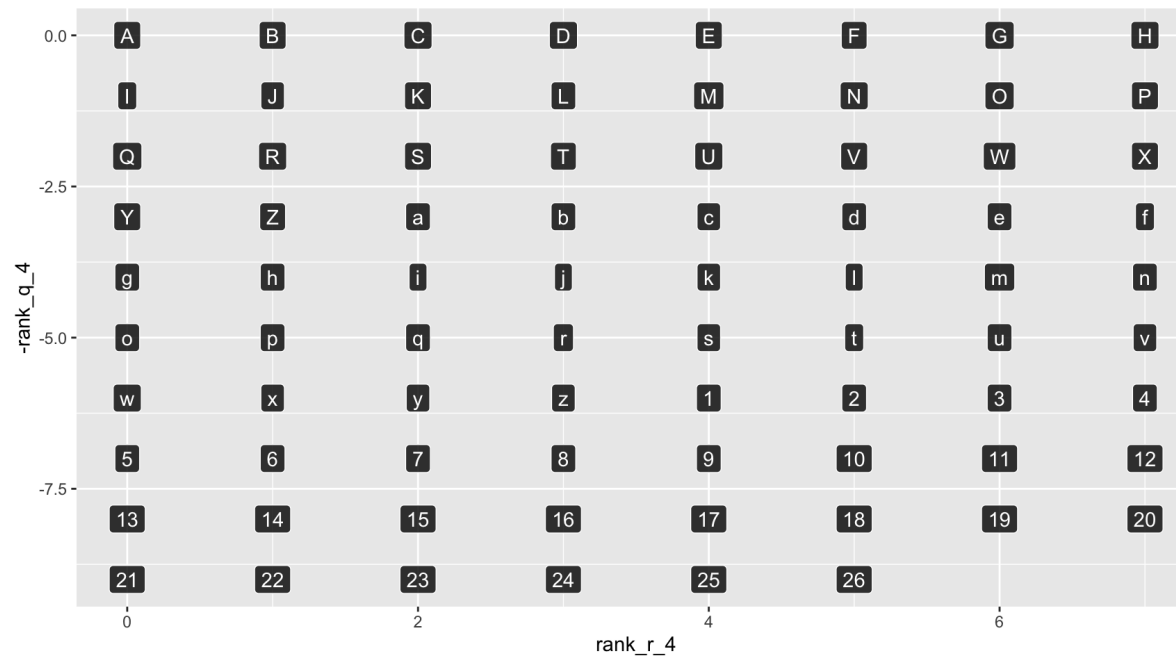
```



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  ggplot() +
    aes(x = rank) +
    aes(y = 0) +
    geom_label(aes(label = unit),
               alpha = .8) +
    aes(y = unit) +
    aes(y = rank_q_4) +
    aes(x = rank_r_4) +
    aes(y = -rank_q_4)

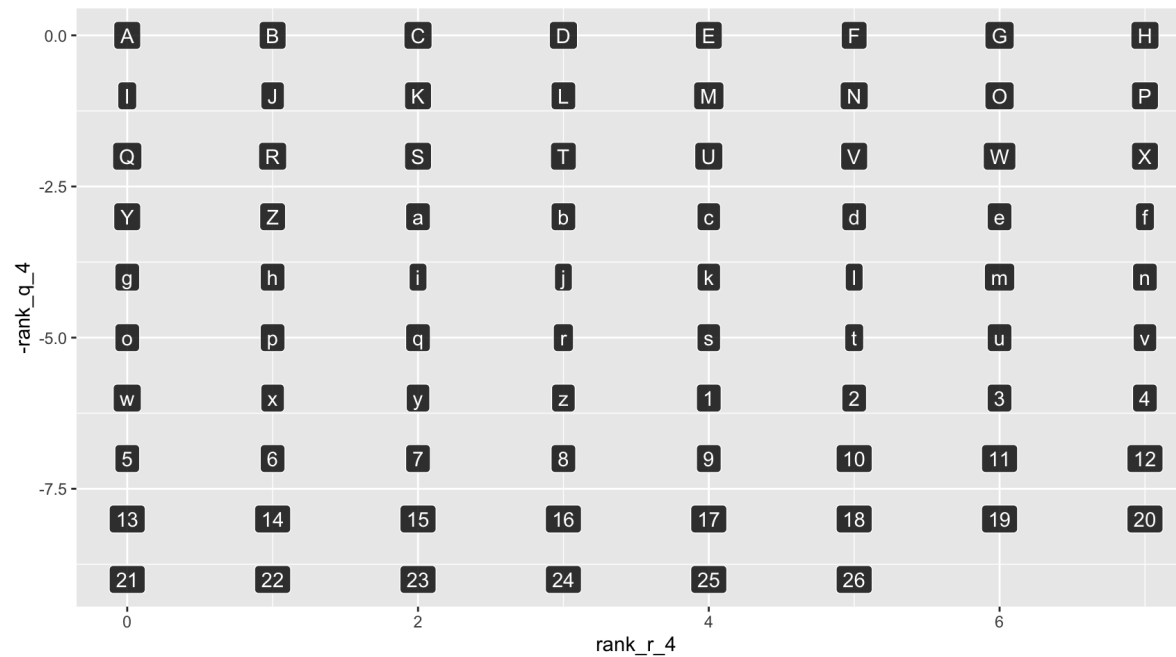
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    aes(y = 0) +
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              alpha = .8) +
    aes(y = unit) +
    aes(y = rank_q_4) +
    aes(x = rank_r_4) +
    aes(y = -rank_q_4) +
    scale_fill_viridis_c(option = "magma")

```



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  ggplot() +
    aes(x = rank) +
    aes(y = 0) +
    geom_label(aes(label = unit),
               alpha = .8) +
    aes(y = unit) +
    aes(y = rank_q_4) +
    aes(x = rank_r_4) +
    aes(y = -rank_q_4) +
    scale_fill_viridis_c(option = "magma") +
    ggdark::dark_theme_minimal()

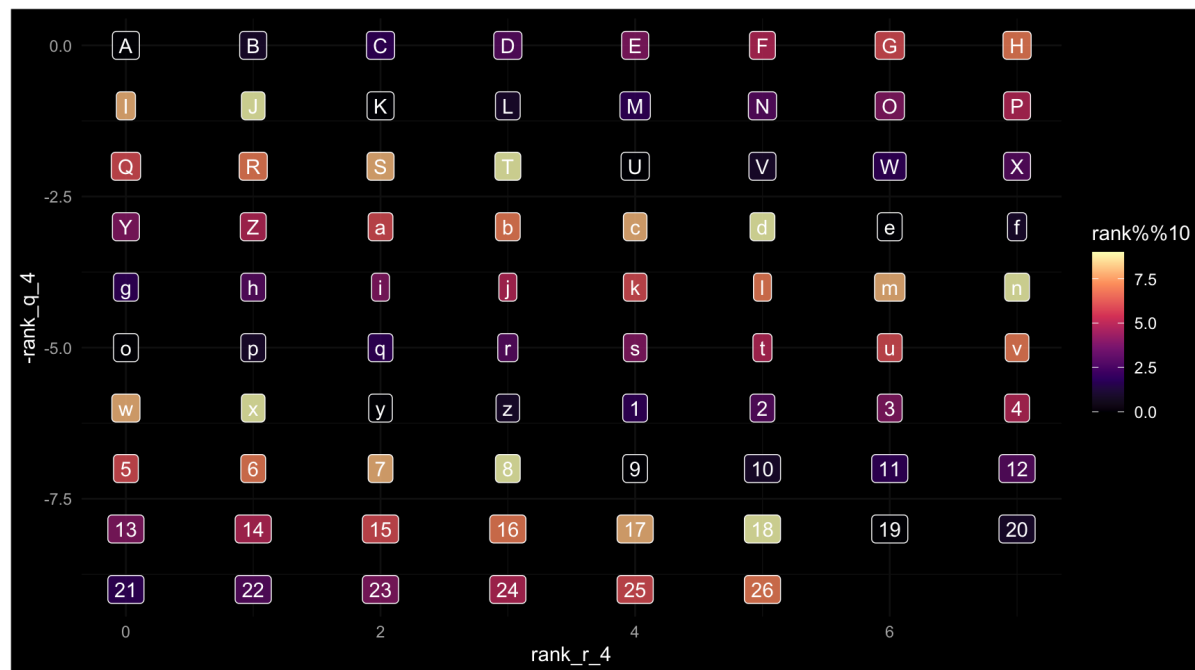
```



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    aes(y = unit) +
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    aes(x = rank_r_4) +
    aes(y = -rank_q_4) +
    scale_fill_viridis_c(option = "magma") +
    ggdark::dark_theme_minimal() +
    aes(fill = rank %% 10)

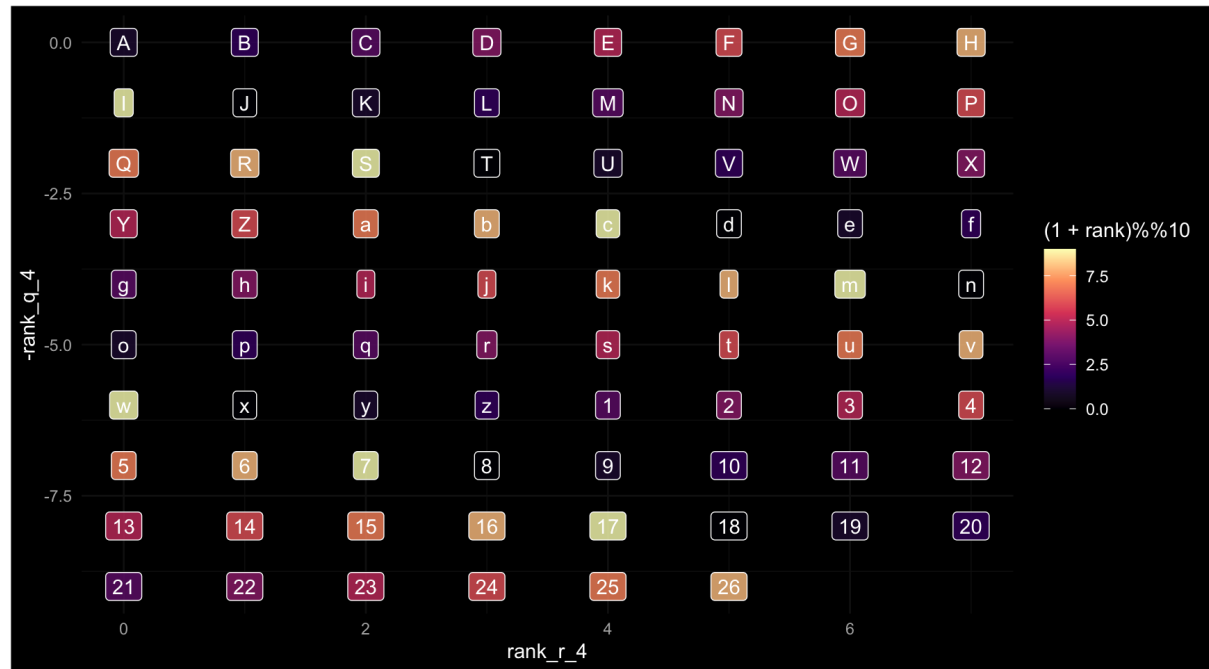
```



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  ggplot() +
  aes(x = rank) +
  aes(y = 0) +
  geom_label(aes(label = unit),
             alpha = .8) +
  aes(y = unit) +
  aes(y = rank_q_4) +
  aes(x = rank_r_4) +
  aes(y = -rank_q_4) +
  scale_fill_viridis_c(option = "magma") +
  ggdark::dark_theme_minimal() +
  aes(fill = rank %% 10) +
  aes(fill = (1+rank) %% 10)

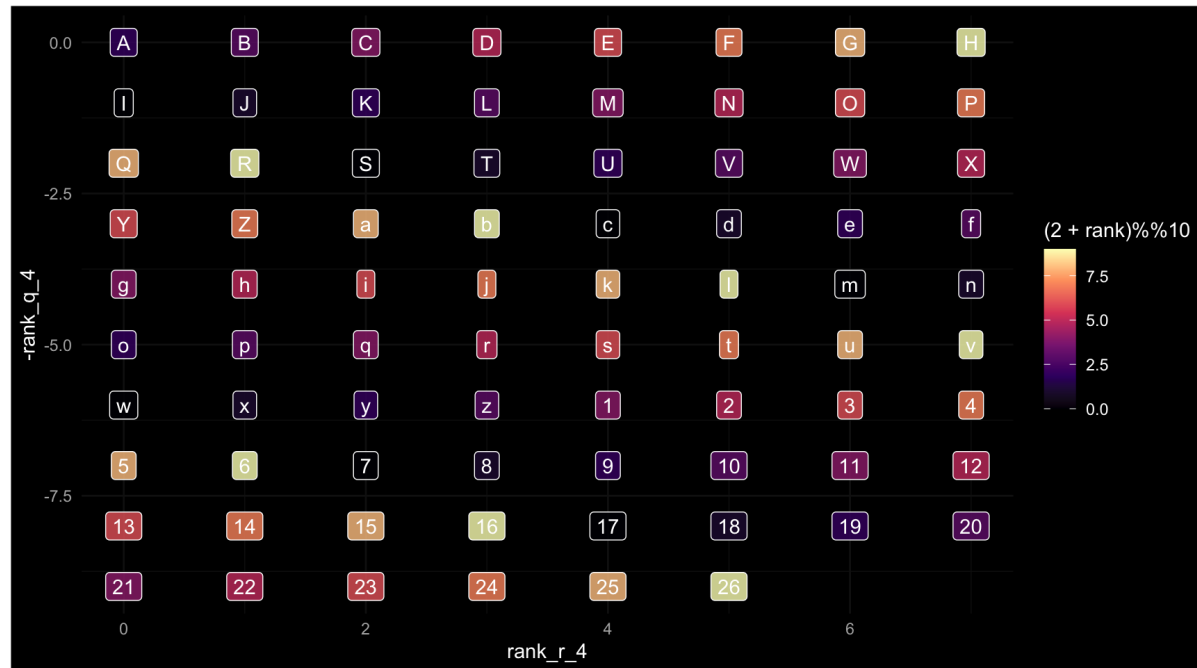
```



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  aes(x = rank_r_4) +
  aes(y = -rank_q_4) +
  scale_fill_viridis_c(option = "magma") +
  ggdark::dark_theme_minimal() +
  aes(fill = rank %% 10) +
  aes(fill = (1+rank) %% 10) +
  aes(fill = (2+rank) %% 10)

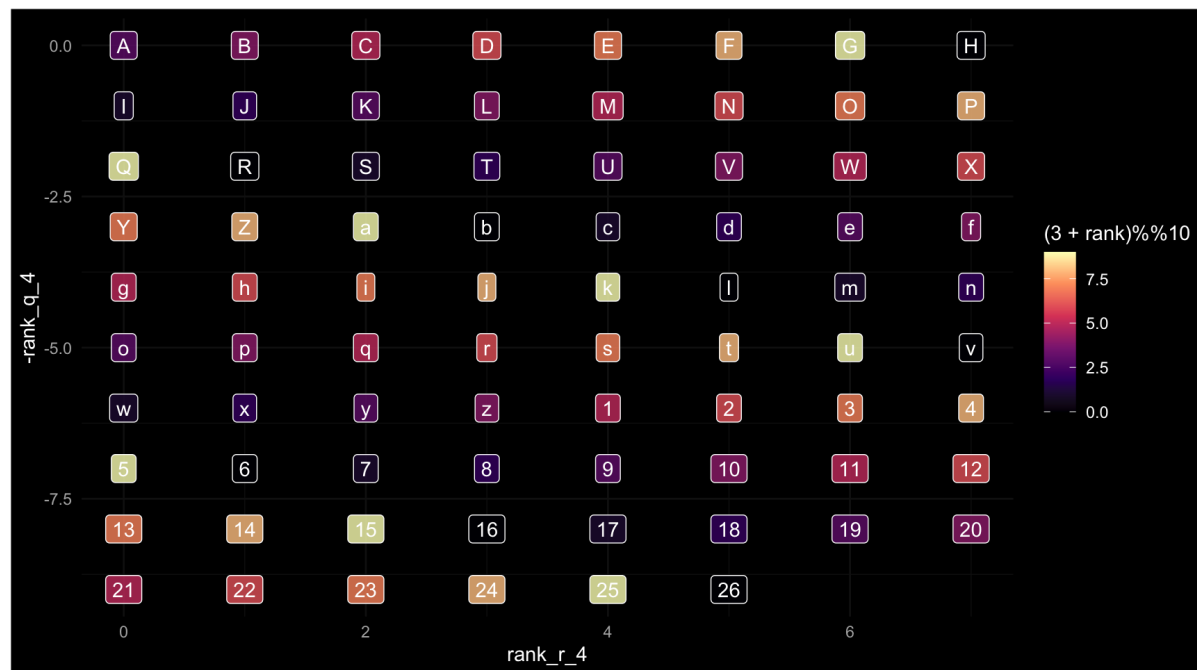
```



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  aes(y = rank_q_4) +
  aes(x = rank_r_4) +
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  aes(fill = (3+rank) %% 10)

```



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  aes(x = rank_r_4) +
  aes(y = -rank_q_4) +
  scale_fill_viridis_c(option = "magma") +
  ggdark::dark_theme_minimal() +
  aes(fill = rank %% 10) +
  aes(fill = (1+rank) %% 10) +
  aes(fill = (2+rank) %% 10) +
  aes(fill = (3+rank) %% 10) +
  aes(fill = (4+rank) %% 10)

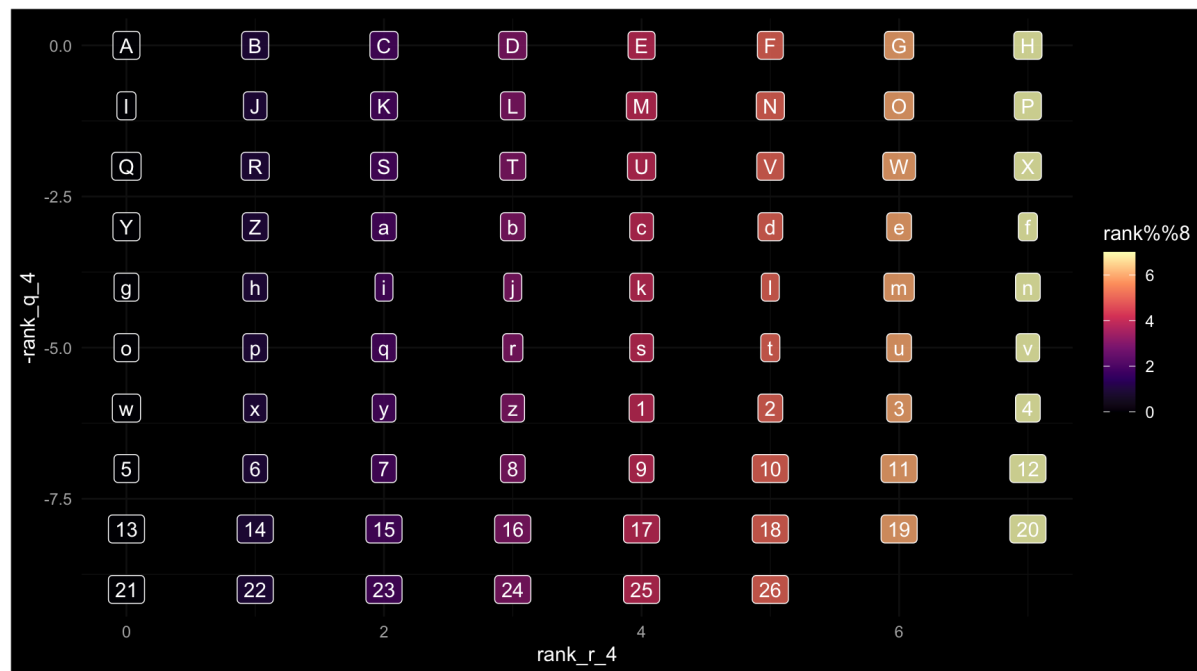
```



```

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set.seed(12342)
c(LETTERS, letters, 1:26) %>%
  tibble(unit = .) %>%
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    aes(fill = rank %% 10) +
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    aes(fill = (3+rank) %% 10) +
    aes(fill = (4+rank) %% 10) +
    aes(fill = rank %% 8)

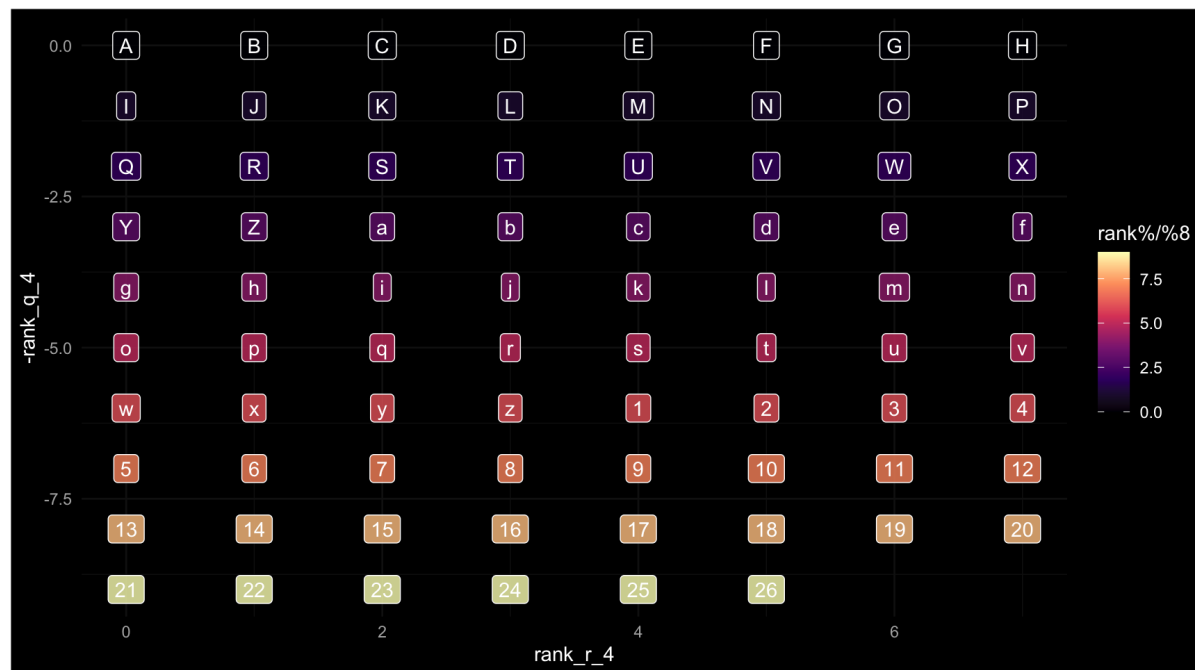
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  aes(x = rank_r_4) +
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    aes(fill = rank %% 10) +
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    aes(fill = rank %% 8) +
    aes(fill = rank %/% 8) +
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  aes(fill = (3+rank) %% 10) +
  aes(fill = (4+rank) %% 10) +
  aes(fill = rank %% 8) +
  aes(fill = rank %/% 8) +
  aes(fill = -rank %% 8) +
  aes(fill = -rank %/% 8)

```

