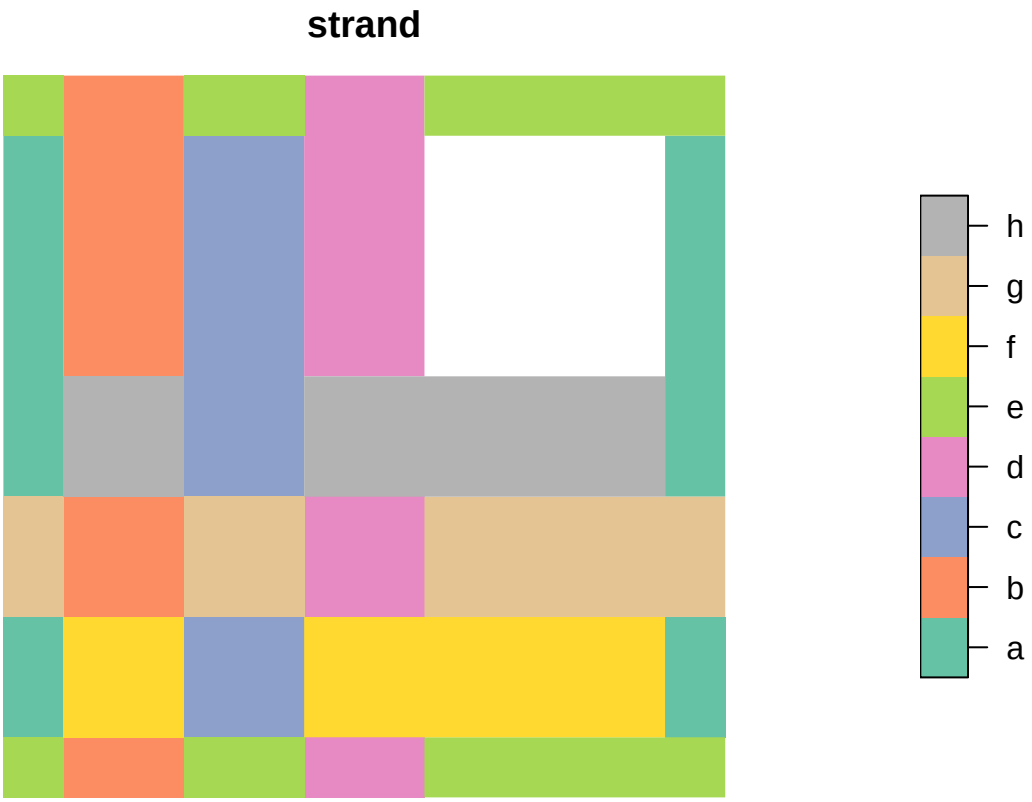
```
source("weaving-space-utils.R")
source("biaxial-weave-units.R")
source("triaxial-weave-units.R")
source("weave-map.R")

library(sf)         # vector spatial data
library(tmap)       # thematic maps
library(dplyr)      # data wrangling
```

Plain weave with gaps

```
m <- make_twill_matrix(1) %>%
  repmat(2) %>%
  augment_with_values(2, 0)
unit <- get_biaxial_weave_unit(type = "this", tie_up = m, strands = "abcd--|efgh--")
```

```
## Warning: attribute variables are assumed to be spatially constant throughout all
## geometries
```

```
unit$primitive %>% plot(border = NA)
```

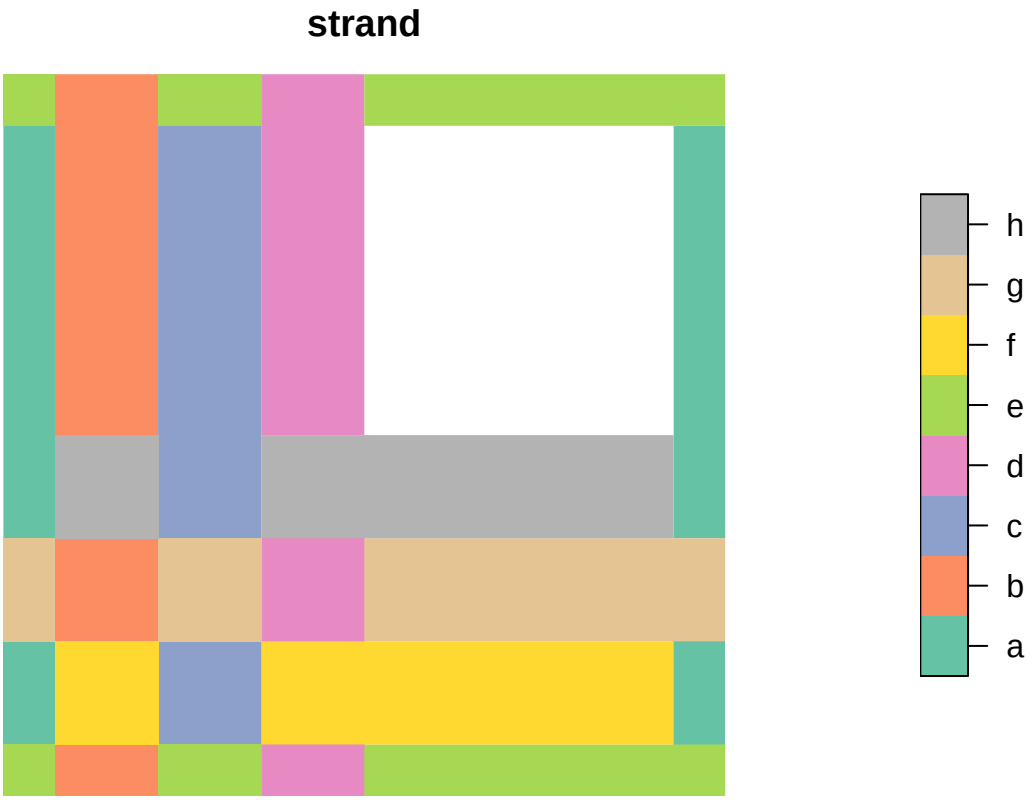


Make the gap bigger - any time you add more rows/columns of 0s with `augment_with_values` you need to add dashes to the `strands` parameter.

```
m <- make_twill_matrix(1) %>%
  repmat(2) %>%
  augment_with_values(3, 0)
unit <- get_biaxial_weave_unit(type = "this", tie_up = m, strands = "abcd---|efgh---")
```

```
## Warning: attribute variables are assumed to be spatially constant throughout all
## geometries
```

```
unit$primitive %>% plot(border = NA)
```

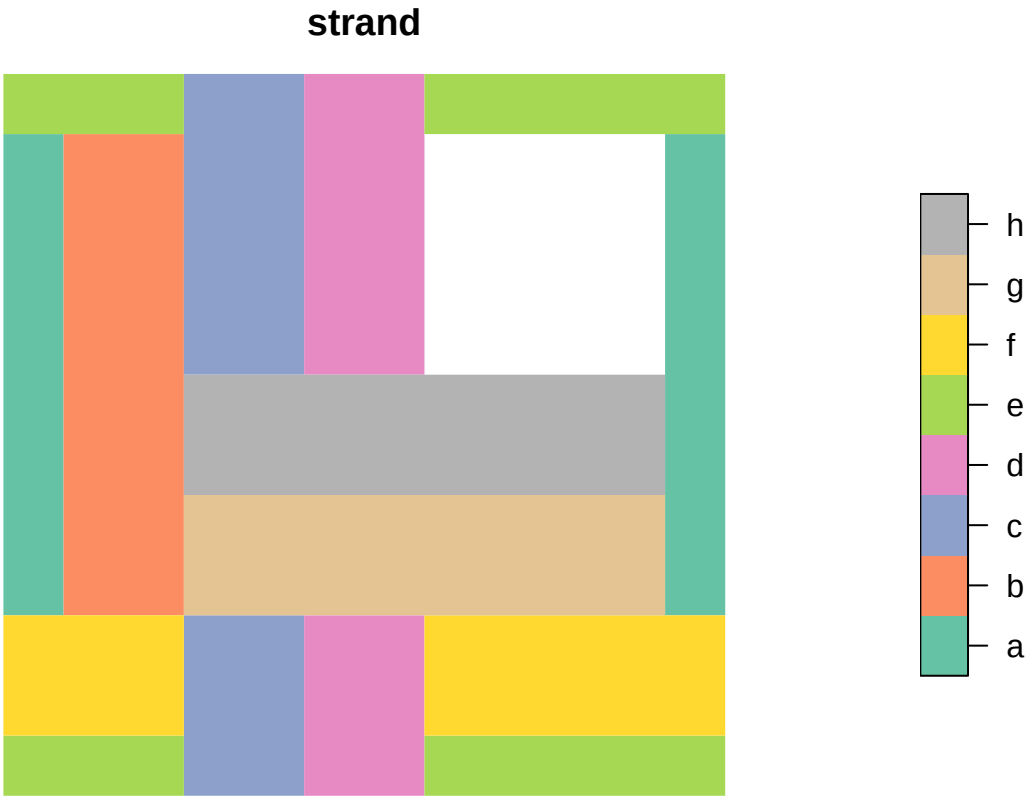


2 over 2 under basket weave with gaps

```
m <- make_basket_matrix(2) %>%
  augment_with_values(2, 0)
unit <- get_biaxial_weave_unit(type = "this", tie_up = m, strands = "abcd--|efgh--")
```

```
## Warning: attribute variables are assumed to be spatially constant throughout all
## geometries
```

```
unit$primitive %>% plot(border = NA)
```

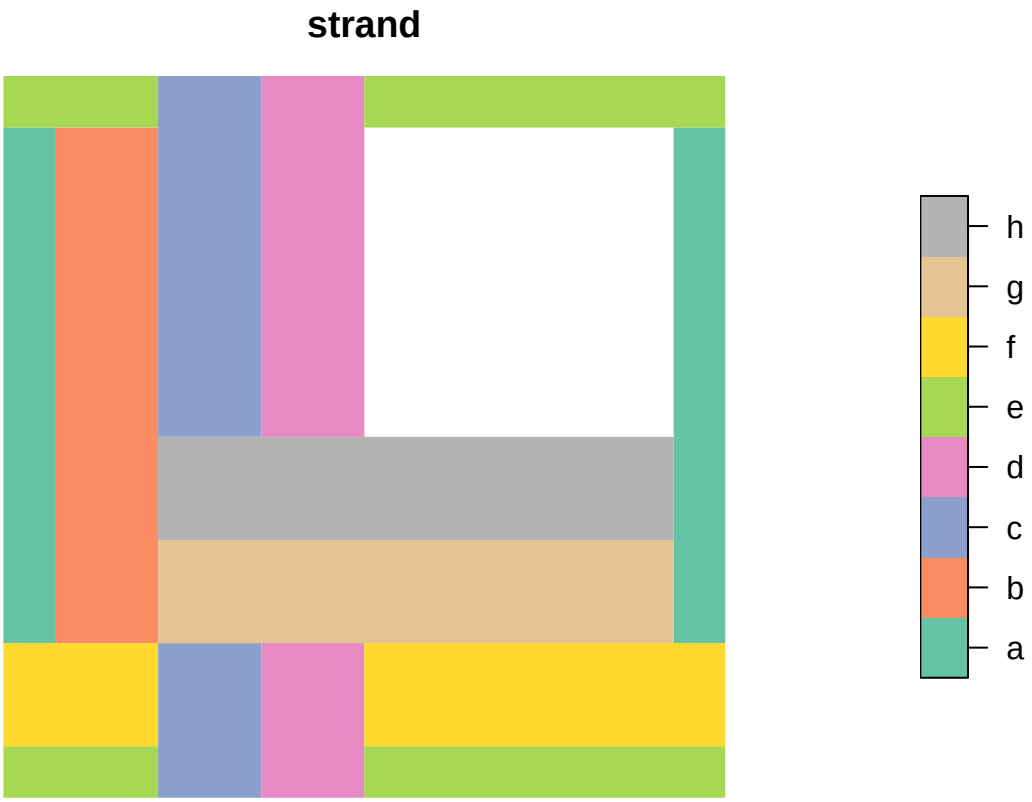


This can be augmented similarly

```
m <- make_basket_matrix(2) %>%
  augment_with_values(3, 0)
unit <- get_biaxial_weave_unit(type = "this", tie_up = m, strands = "abcd---|efgh---")
```

```
## Warning: attribute variables are assumed to be spatially constant throughout all
## geometries
```

```
unit$primitive %>% plot(border = NA)
```

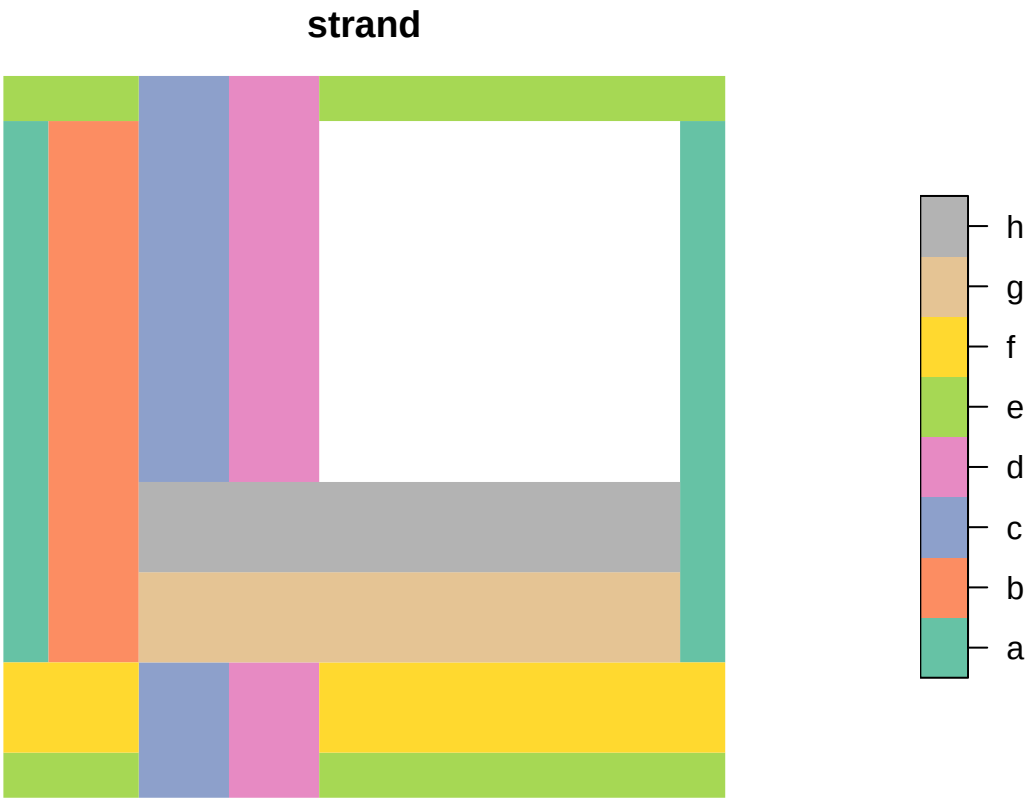


If you wanted to have spaces 4x4 then since the 2 over 2 under basket fits that exactly, you don't need to augment the matrix, and can just add the missing strands:

```
m <- make_basket_matrix(2)
unit <- get_biaxial_weave_unit(type = "this", tie_up = m, strands = "abcd----|efgh----")
```

```
## Warning: attribute variables are assumed to be spatially constant throughout all
## geometries
```

```
unit$primitive %>% plot(border = NA)
```


strand
h
g
f
e
d
c
b
a