STAT F300
Statistics

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Lecture 1

(§1.2) Descriptive statistics; (§1.3) Measures of location

Common naming conventions:

- Population size: N
- Sample size: n
- Sample from two different populations: n, m, or n_1, n_2
- Data: $x_1, x_2, x_3, \ldots x_n$

Stem-and-leaf displays

```
> x sample(1:50, size=20, replace=TRUE)
> sort(x)
    [1]: 2 2 2 3 9 14 18 19 20 21 21 22 22 29 30 32 32
   [18]: 33 44 47
> stem(x)
```

The sample function generates numbers in the range provided as the first argument, with a size equal to the second argument. sort(x) sorts the values stored in x, and stem(x) does the following:

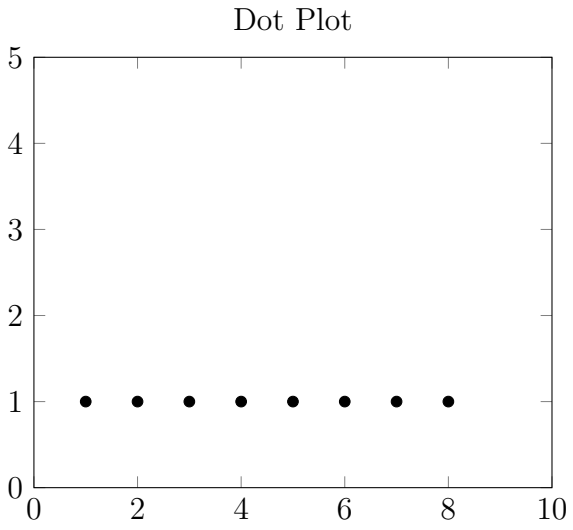
Each "stem" refers to the highest digits and each "leaf" is the latter digits. This is the stem-and-leaf display for the dataset stored in x:

Stem	Leaves
0	2 2 2 3 9
1	4 8 9
2	0 1 1 2 2 9
3	0 2 2 3
4	4 7

Dot plots

```
> x <- sample(1:10, size=15, replace=TRUE)
> x
 [1]: 7 8 1 3 4 10 1 2 2 1 1 4 4 9 6
> stripchart(x, method="stack", offset=0.5, at=0.15, pch=20)
```

`stripchart()` constructs the dot plot. The `offset` and `at` values affect the appearance. `pch` means `p` rinting `ch` aracter. Having it set to 20 makes the dot solid.


Dot Plot
5
4
3
2
1
0
0
2
4
6
8
10