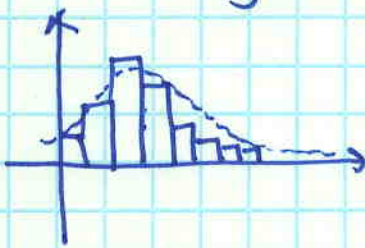


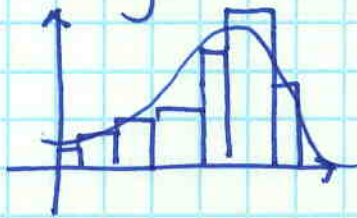
5/7/15

11-1 Descriptive Statistics

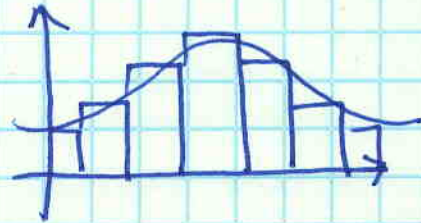
Choosing Summary Statistics



positively skewed (right)



negatively skewed (left)



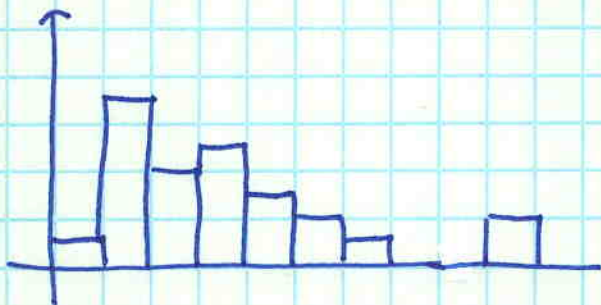
Normal Symmetrical distribution

use 5-number summary

use mean

the TAIL points in the direction of the skew

Ex 1 Skewed Distributions



| | | | | |
|-----|-----|-----|-----|-----|
| 250 | 248 | 234 | 219 | 226 |
| 299 | 205 | 212 | 215 | 245 |
| 257 | 228 | 221 | 233 | 212 |
| 220 | 213 | 231 | 212 | 266 |
| 238 | 249 | 292 | 223 | 235 |
| 218 | 227 | 209 | 242 | 217 |

5 number Summary

min - 209
 Q₁ - 217.5
 Med - 231
 Q₃ - 246.5
 max - 299

} half the values are here

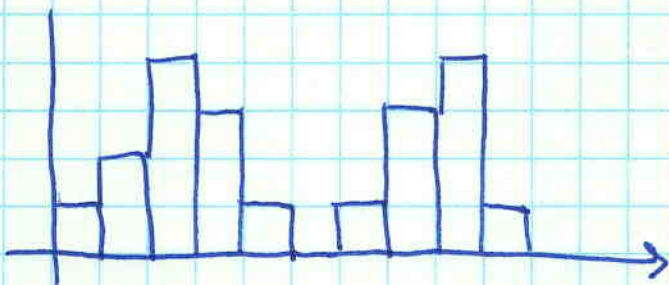
Bimodal Distribution

Annual cost of tuition for a sample of 20 colleges

College Tuition

| | | | | |
|------|------|------|------|------|
| 32 | 10.1 | 31 | 11 | 31.5 |
| 5.5 | 35 | 10.8 | 3.6 | 11.5 |
| 7.4 | 15.1 | 18.2 | 25.4 | 33.1 |
| 36.2 | 32 | 30.4 | 14.3 | 12.4 |

a) Construct histogram, describe the shape of the distribution



2 peaks - bimodal

maybe public & private schools?

b) both sides are mostly symmetrical
use mean & standard deviations -

$$\bar{x} = 10,900 \quad \sigma_x = 4050 \quad (\text{cluster 1})$$

$$\bar{x} = 31,866 \quad \sigma_x = 2837 \quad (\text{cluster 2})$$