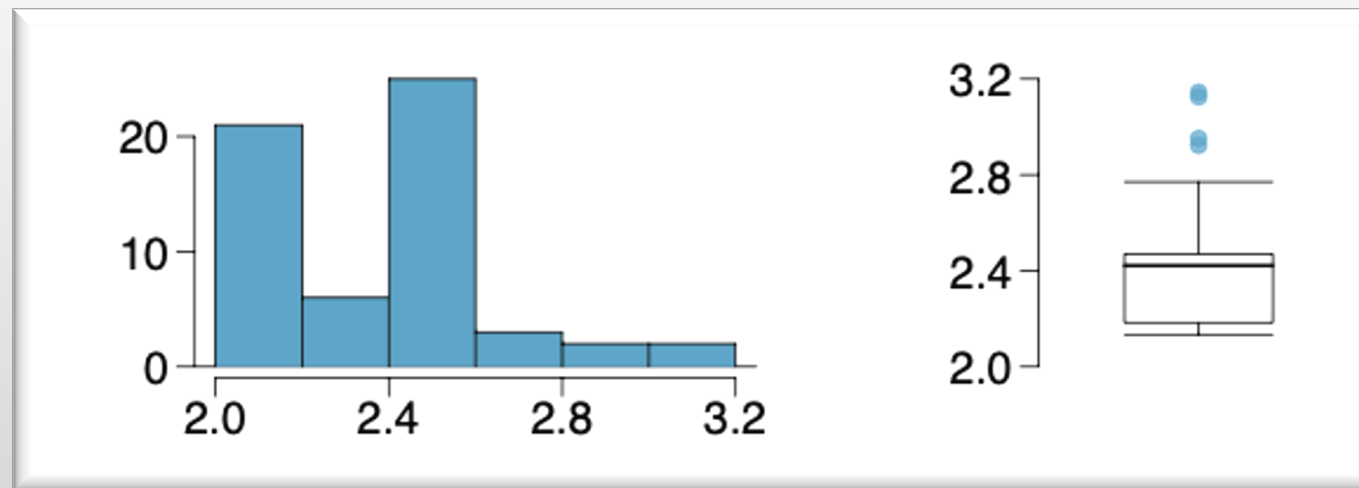
The background of the slide is a light gray gradient. It is decorated with numerous realistic water droplets of various sizes. Some droplets are at the top left, some are scattered in the middle, and a larger cluster of droplets is in the bottom right corner. The droplets have highlights and shadows, giving them a three-dimensional appearance.

# DATA 606 PRESENTATION: CHAPTER 2

LETICIA SALAZAR

## 2.34 MARATHON WINNERS

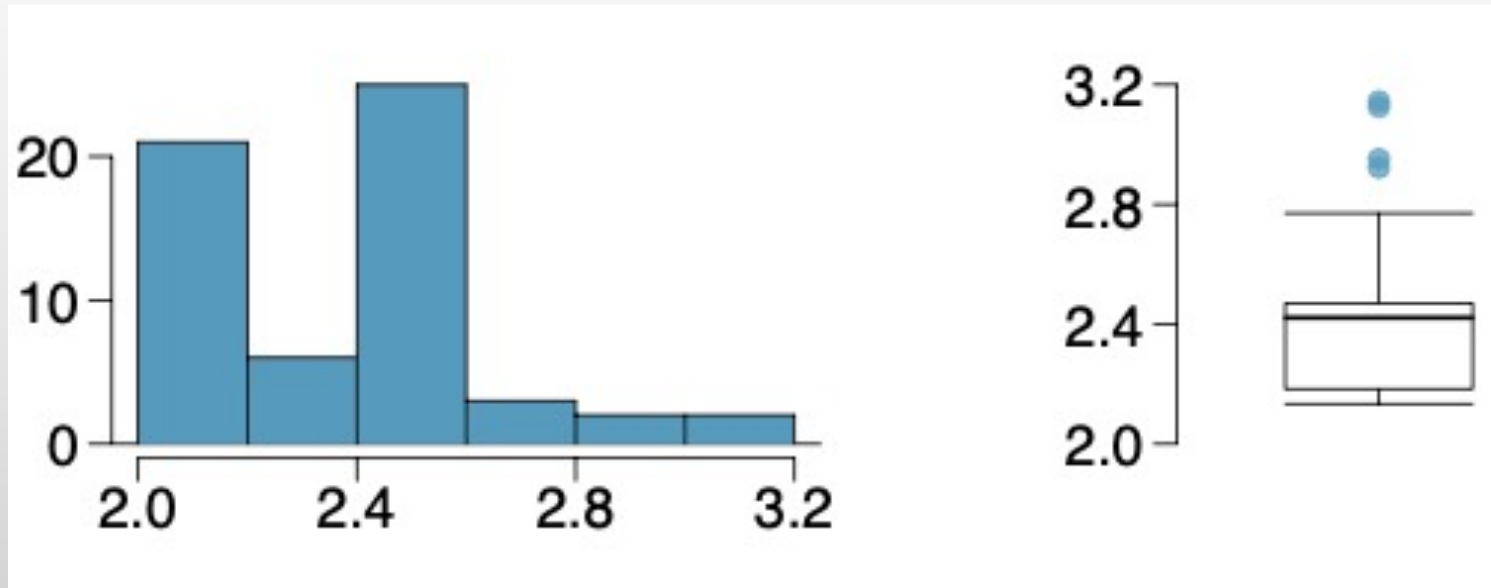


- THE HISTOGRAM AND BOX PLOTS BELOW SHOW THE DISTRIBUTION OF FINISHING TIMES FOR MALE AND FEMALE WINNERS OF THE NEW YORK MARATHON BETWEEN 1970 AND 1999.

## 2.34 MARATHON WINNERS

- (A) WHAT FEATURES OF THE DISTRIBUTION ARE APPARENT IN THE HISTOGRAM AND NOT IN THE BOX PLOT? WHAT FEATURES ARE APPARENT IN THE BOX PLOT BUT NOT IN THE HISTOGRAM?
- (B) WHAT MAY BE THE REASON FOR THE BIMODAL DISTRIBUTION? EXPLAIN
- (C) COMPARE THE DISTRIBUTION OF MARATHON TIMES FOR MEN AND WOMEN BASED ON THE BOX PLOT SHOWN BELOW.
- (D) THE TIME SERIES PLOT SHOWN BELOW IS ANOTHER WAY TO LOOK AT THESE DATA. DESCRIBE WHAT IS VISIBLE IN THIS PLOT BUT NOT IN THE OTHERS.

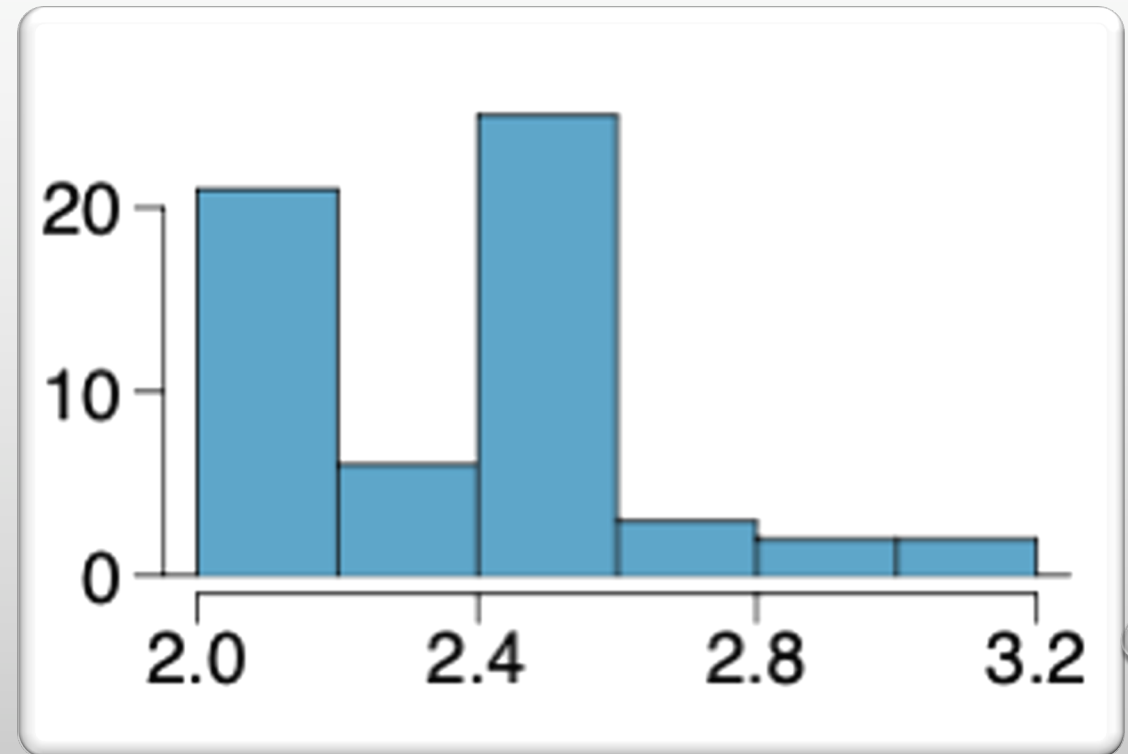
(A) WHAT FEATURES OF THE DISTRIBUTION ARE APPARENT IN THE HISTOGRAM AND NOT IN THE BOX PLOT? WHAT FEATURES ARE APPARENT IN THE BOX PLOT BUT NOT IN THE HISTOGRAM?



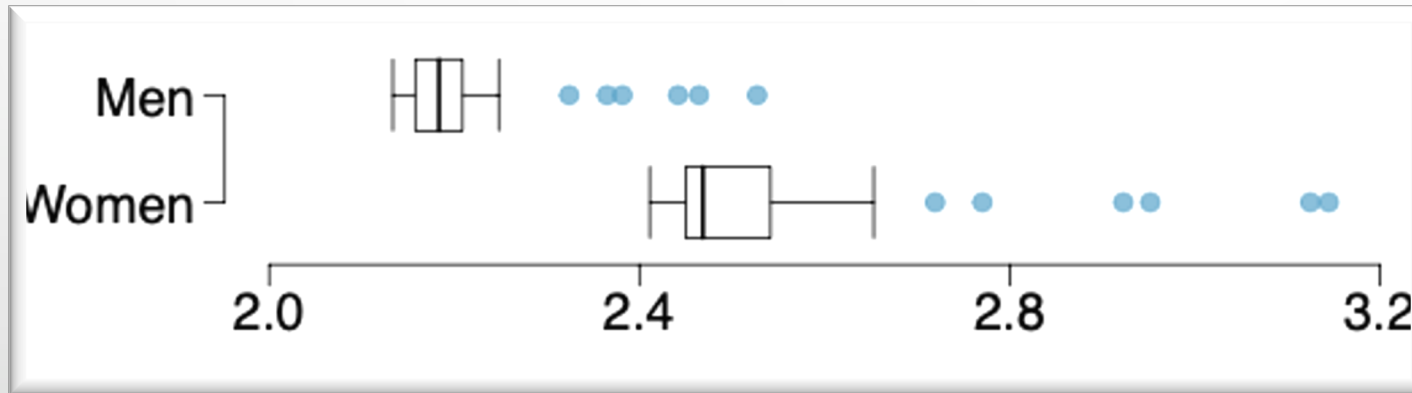
Histogram	Box Plot
Good sense of the distribution and overall scope of the data set	Summary of distribution and individual points
Two modes visible	Median is more visible
Right skewed	Notice the outliers!

(B) WHAT MAY BE THE REASON FOR THE BIMODAL DISTRIBUTION? EXPLAIN

- DATA IS DISPLAYING FINISHING TIMES; THE BIMODAL DISTRIBUTION IS SHOWING THE OUTCOMES FOR BOTH MALE AND FEMALE FINISHERS.

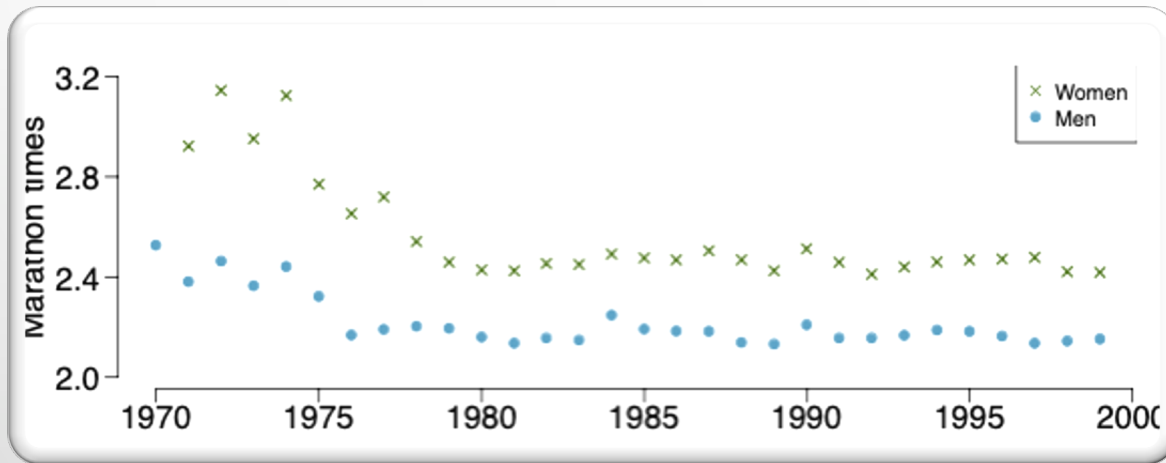


(C) COMPARE THE DISTRIBUTION OF MARATHON TIMES FOR MEN AND WOMEN BASED ON THE BOX PLOT SHOWN BELOW.



- *MEN'S FINISHING TIMES ARE LOWER THAN THE WOMEN.*
- *OUTLIERS FOR MEN END AROUND 2.5*
- *OUTLIERS FOR WOMEN END CLOSER TO 3.2*

(D) THE TIME SERIES PLOT SHOWN BELOW IS ANOTHER WAY TO LOOK AT THESE DATA. DESCRIBE WHAT IS VISIBLE IN THIS PLOT BUT NOT IN THE OTHERS.



- PLOTS SHOW THE TIME FOR MEN AND WOMEN FROM 1970 – 2000
- WOMEN'S TIME ARE MUCH HIGHER THAN MEN'S
- AS TIME GOES BY BOTH START DECREASING