

Lesson 2

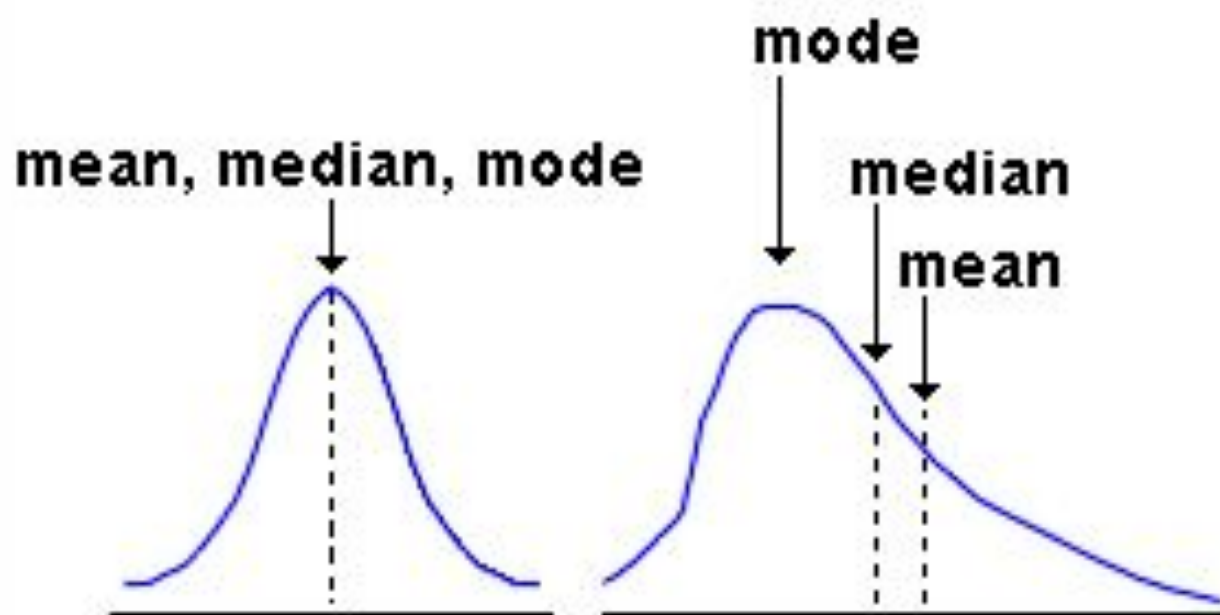
Creating functions with univariate data

Univariate Data

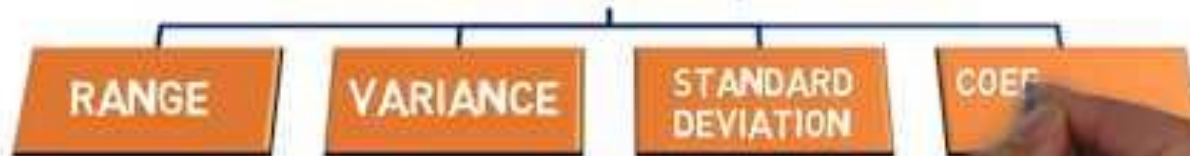
- Single data measure of different individuals
- Mean, median, range, standard deviation
- Counts/Frequencies

Heights (in cm)	164	167.3	170	174.2	178	180	186
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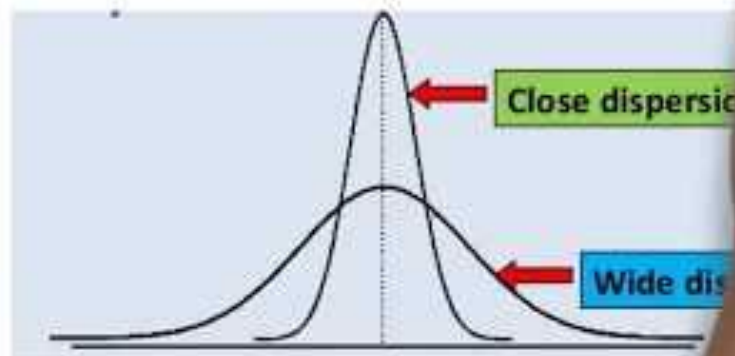
Measures of Central Tendency



Measures of Dispersion:



EXTENT OF SPREAD OF VALUES FROM MEAN



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APPLY

```
1 let data;
2
3 //loads data for fish lengths
4 function preload(){
5   data = loadTable("FishLength.csv","csv","header")
6 }
7
8 function setup() {
9   createCanvas(400, 400);
10  background(220);
11
12  let lengths = data.getColumn(0)
13
14  print(mean(lengths))
15  print(median(lengths))
16  // counts the number of fish over 30
17  let countBig = 0
18  for(let i=0;i<lengths.length;i++){
19    if(lengths[i]>30){
20      countBig++
21    }
22  }
23  print("number of Big Fish is: "+ countBig)
24  //counts the number of fish between 20 and 30
```

console

Clear ▾

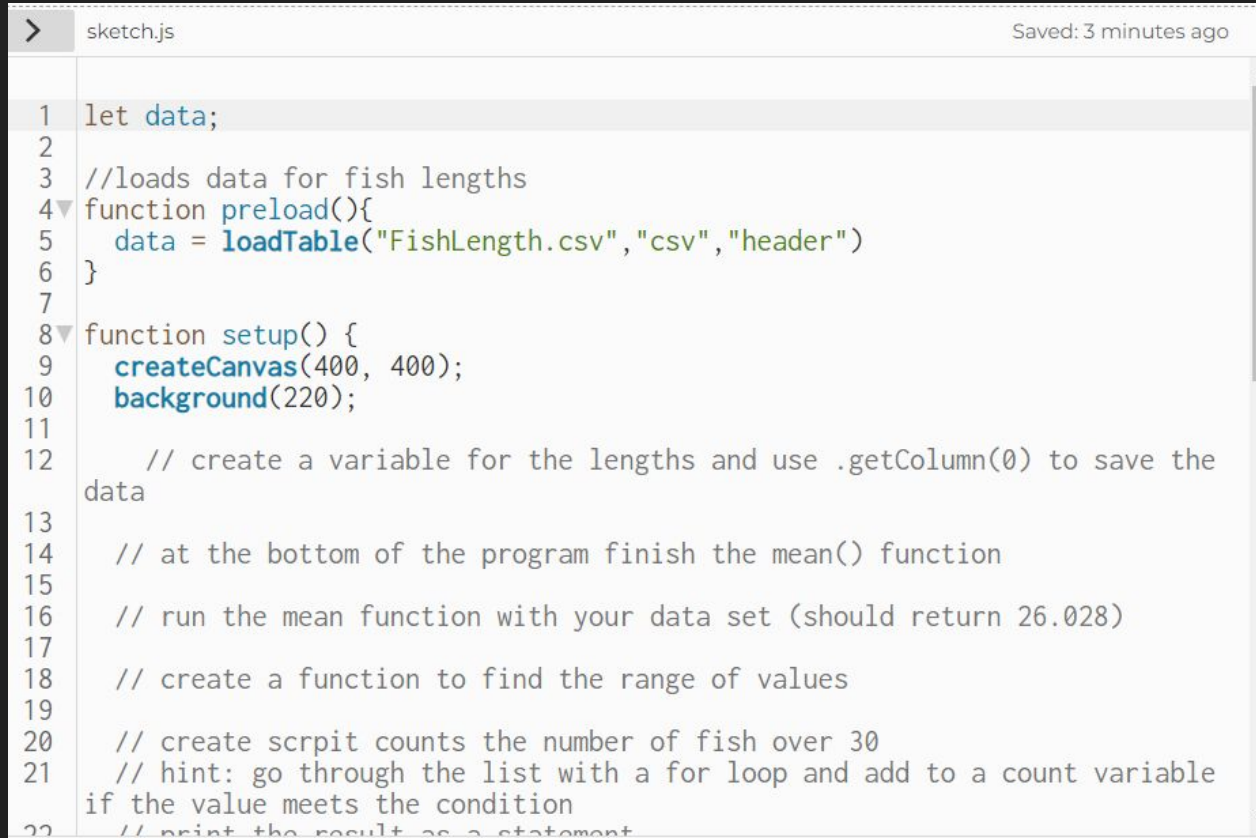
911

27

number of Big Fish is: 9

number of fish between 20 and 30: 12

Explanation of task and starter code



The screenshot shows a P5.js editor window with a file named 'sketch.js' and a 'Saved: 3 minutes ago' status. The code is as follows:

```
1 let data;
2
3 //loads data for fish lengths
4 function preload(){
5   data = loadTable("FishLength.csv", "csv", "header")
6 }
7
8 function setup() {
9   createCanvas(400, 400);
10  background(220);
11
12  // create a variable for the lengths and use .getColumn(0) to save the
  data
13
14  // at the bottom of the program finish the mean() function
15
16  // run the mean function with your data set (should return 26.028)
17
18  // create a function to find the range of values
19
20  // create script counts the number of fish over 30
21  // hint: go through the list with a for loop and add to a count variable
  if the value meets the condition
22  // print the result as a statement
```

<https://editor.p5js.org/ajprado@gmail.com/sketches/tZhxLE3cp>