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Week 6: Exponential and Logistic Function Models &gt; Problem Set &gt; Question 1

## Question 1

How has mobile phone usage in Brazil changed since 1995?

1. Create a subset of the world bank data that contains records from Brazil 1995 and later.
2. Change the year variable to be "years since 1995" and update the units of the "mobile.users" variable to millions of users.
3. Use this data to answer the following questions.

Use the "WorldBankData.csv" dataset to answer the following questions. Instructions for installing "WorldRecords.csv" can be found under the **Examine the Data** unit in this week's **Pre-Lab** section.

(1/1 point)

1a. Use RStudio to find the number of mobile users in Brazil (in millions) in 2000. (Round to 2 decimal places.)




Answer: 23.19

You have used 1 of 1 submissions


(1/1 point)

## Function Models

### Readings


Reading Check due Mar 15, 2016 at 18:00 UTC 

### Lecture Videos

Comprehension Check due Mar 15, 2016 at 18:00 UTC 

### R Tutorial Videos


### Pre-Lab

Pre-Lab due Mar 15, 2016 at 18:00 UTC 

### Lab

Lab due Mar 15, 2016 at 18:00 UTC 

### Problem Set

Problem Set due Mar 15, 2016 at 18:00 UTC 

1b. In what year did Brazil first record **more than** 100 million mobile users?

✓ Answer: 2007

*You have used 1 of 1 submissions*

1c. Generate a scatterplot and fit a linear, exponential and logistic model to the data. Which model best describes the increase in mobile users in Brazil since 1995?

☐ Exponential Model

☐ Linear Model

☒ Logistic Growth Model ✓

*You have used 1 of 1 submissions*

(1/1 point)

1d. What proportion of the variation in mobile users is explained by years since 1995 in the best-fitting model? (*Round to 3 decimal places.*)

✓ Answer: .998

*You have used 1 of 1 submissions*

(1/1 point)

1e. Using the best-fitting model, predict the number of mobile users (in millions) in Brazil in 2025. (*Round to a whole number.*)

✓ Answer: 345

345

*You have used 1 of 1 submissions*

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