

All of the questions will be based two competing companies Alphabet and Blackberry. The questions are all based off the profit over time for both companies (Shown in the table below).

e.g. in 2019 Alphabet made 3.8 million in profit

ANSWERS

Million \$	2015	2016	2017	2018	2019	2020	2021
Alphabet Profit	1.1	1.9	2.8	3.4	3.8	5.2	5.6
BlackBerry Profit	10.8	13.1	16.2	19.1	25.0	28.0	34.8

Question 1: Scatter and Stem-and-Leaf Plots

- Construct the scatter plots for Alphabet and Blackberry on separate plots.
- Construct the stem-and-leaf plots for Alphabet and Blackberry separately.

Question 2: Calculate Key Metrics for BlackBerry

BlackBerry seems to be doing well as a company, lets dig deeper into its key metrics!

- Calculate the **mean** profit for BlackBerry.
- Calculate the **median** profit for BlackBerry.
- Calculate the **range** of profits for BlackBerry over the 7 years.
- What is the **inter-quartile range** of BlackBerry?

Question 3: Blackberry Box Plot

- a) Draw a box plot of Blackberry's profits

Question 4: Linear Regression

- a) Perform a linear regression on Alphabet and BlackBerry. Are they good fits?
- b) What will the predicted profit be for Alphabet and BlackBerry in the year 2050?
- c) Will the year extrapolated data in year 3000 be accurate?