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Programming Languages

## R Language Project

Our language project will be on the programming language R. R is a functional programming language and environment used for statistical computing and graphics. The R project is an open source project under GNU designed around the previous language S. We are looking into studying R as a learning experience as we both want to try something new and look into why this language is very useful for tasks like data manipulation, statistical analysis and visualization. This language will allow us to manipulate large amounts of data and analyze those datasets. Large and complex data can be confusing, R will allow us to see and analyze the data more clearly and efficiently.

We would like to implement a series of datasets to display and analyze through visualization features of R seen in packages like ggplot2 and others. We plan to find and use data sets on the various topics from the internet for our project. We plan to first learn the basics of the language so we will be able to help read existing code and write small programs ourselves. During the learning process, we intend to learn how to manipulate small trivial datasets and learn the data features of R. Next we plan to find relevant datasets to implement in our project. We plan to use the skills we learned on data visualization to manipulate our datasets in a way that highlights the language. Finally, we intend on showing other features and concepts of the R language and how they compare to languages and concepts we have studied in class.

Our first milestone is learning the basics of R. We plan to achieve this milestone by November 15th. Our next milestone is manipulating and analyzing large data sets, we plan on completing this one by November 24th. Our final milestone is showing off the other features and concepts of R, we plan on completing this by December 1st. All milestones are important towards the success of the project. However, implementing the datasets and manipulating them will be the most challenging, but also the most important milestone. Completing this milestone will highlight the usefulness in the functionality of the R programming language.