

Quiz: R Project Draft

Course Code and Number: CIS663

Course Section: 01

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Instructions

Please read the instructions below. Failure to comply with the instructions will result in a penalty ranging from 5% to 100% of the grade

1. Use this document as a template for your response. In other words, type your student information and your answers into the document. Please do not delete anything from this document **[5% penalty]**
2. Please name the MS Word file that you send me as follows:
“YourStudentId_FirstName_LastName_CourseCodeNumber_SectionNumber_Project Draft_SemesterYear.doc” For example, a student named John Smith with a student ID 00100001 from Section 01 will have the following file name:
00100001_John_Smith_CIS663_Section01_Project_Draft_Spring2019.doc **[5% penalty]**
3. Please submit the assignment to via Canvas before the specified deadline. **There will be a penalty for every day late (please refer to the syllabus). If you don’t submit your assignment properly – your assignment will be classified as “late” until it is properly submitted.**
4. No cheating please **[100% penalty]**
 - This is an individual assignment: you must complete this assignment on your own. Cases where two or more submissions have a larger overlap or when a student doesn’t seem to be knowledgeable in the assignment that he or she submitted may be investigated
 - If you use text from the Internet, textbook, etc. please make put an appropriate citation to make it explicit that you are using information from these sources (even in paraphrased form)

Assignment

This assignment involves creating a rough draft of a proposal for a research project in R. Your project needs to provide an answer to an important question or a solution to an important problem. There is no need to provide details. What matters is a rough understanding of what the project will be about and what kind of data, packages, and analysis techniques you will use for the project. It's OK if you don't have a specific idea for a particular aspect of the project. If this is the case, then just provide some ideas on what can be a possible way to go.

Identify Problem and Motivate its Importance [4pts]

This section should have two parts or paragraphs. The first part should clearly define the problem that you are trying to address. The smaller and the more specific the problem is, the better it is. The second part should explain why this problem is important. Feel free to use external literature to define the problem and motivate its importance. Please make sure all the sources are properly referenced using the APA format at the end of this report.

Since the pandemic, there have been reports surrounding state-to-state migration in the U.S. According to the U.S. Census Bureau, the number of people who moved between states rose 7.9 million in 2021 to 8.4 million in 2022 (Ismail, 2023). One of the motivating factors for this move has been the rising cost of living. A survey by a moving company found that the number of people who moved because of high cost of living within their current state doubled between 2021 and 2022 (United Van Lines, 2022).

This project helps to recognize how cost of living impacts population. It will also help to identify which states saw an increase in population and those that did not.

Literature Review [4pts]

Read some articles/literature related to the problem area that you are working with and summarize what you have read in one paragraph. What have other people said about the problem? What are the things that are known or not known about the problem.

Population growth has been a topic of debate among intellectuals in recent years. While the increasing concerns owes mostly to the debate around climate change and global warming, economists have argued the impact of population growth on economic development.

The traditional view is that increasing rates of population has adverse effects on economic growth (Johnson, 1999). Using Asia as evidence, particularly China, researchers have argued that decline in fertility leads to better societal wellbeing (Sinding, 2009).

Other studies find that in contrast to the traditional belief, there is a positive and significant relationship between population growth and economic development (Gideon Kiguru Thuku, 2013). Another view is that there is neutral relationship between both variables (Sher Ali, 2013).

Research Question(s) [3pts]

What specific question(s) are you trying to address with your project? Please list using bullet-point format. What are some of the R packages that you may want to use for this project?

- What kind of dashboard can you build based on the data and analysis?

The following questions will be addressed in the project:

- Which states saw a decline in population? (1)
- Which states are the cost of living higher than average? (2)
- What is the relationship between cost of living and population change?

Theory [4pts]

Without analyzing data, what do you see as a solution to your problem now? What do you think will happen once you analyze your data? What do you believe in now in relation to the problem area?

The current belief is that states with higher cost of living index saw a decline in population between 2021 and 2022. Additionally, there is expected to be a positive and significant relationship between cost of living and change in population.

Data[4pts]

What kind of data do you need for your research project? Where can you get it? How can you download and organize it?

This research project will use cost of living data collected from Kaggle. The data includes the cost of living, grocery, housing, utility, transportation health and miscellaneous expense indexes from all state in the first quarter of 2023.

Population data for all states between 2021 and 2022 will be collected from the United States Bureau of Economic Analysis (BEA). Other variables that might be considered include employment, and income per capita data.

Methodology [4pts]

How are you going to analyze your data? What kind of packages or statistical techniques are you planning to use?

Once the data is downloaded from their respective sources, it will be reviewed. After, it will be loaded into R where it will be cleaned, if necessary.

After preparing the data, statistical analysis will be used to find the average cost-of-living index among the states. The average will be used to separate between states with higher (greater than average) costs and those with lower (less than average).

In addition, the difference between population in 2021 and 2022 will be made into a separate column and used to find its relationship with cost of living. The independent variable will be cost of living and the dependent variable is population.

References [2pts]

Please create an APA-style bibliography listing R packages and external sources you are using in the write-up. For example:

- Gideon Kiguru Thuku, G. P. (2013). THE IMPACT OF POPULATION CHANGE ON ECONOMIC GROWTH IN KENYA. *International Journal of Economics and Management Sciences*, 2(6), 43-60.
- Ismail, M. S. (2023, November 21). *United States Census Bureau*. Retrieved February 2024, from Census.gov: <https://www.census.gov/library/stories/2023/11/state-to-state-migration.html#:~:text=Between%202021%20and%202022%2C%20the,data%20from%20the%202022%20ACS>.
- Johnson, D. G. (1999). Population and economic development. *China Economic Review*, 10(1), 1-16.
- Sher Ali, A. A. (2013). The Impact of Population Growth on Economic Development in Pakistan. *Middle-East Journal of Scientific Research*, 18(4), 483-491.
- Sinding, S. W. (2009, October 27). Population, poverty and economic development. *Philos Trans R Soc Lond B Biol Sci.*, 364(1532), 3023–3030.
- United Van Lines. (2022). *Data Illustrated More Moved to be Closer to Family in 2021*. Retrieved from <https://www.unitedvanlines.com/moving-tips/blog/more-moved-to-be-closer-to-family-in-2021>
- World Population Review. (2024, February 20). *Population Decline by State 2024*. Retrieved from <https://worldpopulationreview.com/state-rankings/population-decline-by-state>