

Assignment 1 (Due: Dec 20, 2021)

1. Pick an article from any reputed public health journals (e.g., American Journal of Public Health, BMC Public Health, European Journal of public health, Journal of Public Health, etc.). Write a brief review on what type of exploratory data analysis the author(s) have conducted. (Pay attention to, how the authors have designed their tables and figures, and how they have explained them in the result section so that you can use this knowledge when you answer the following question.)
2. You are given a dataset on heart disease obtained from a clinic in Cleveland, OHIO. Data descriptions are provided below. Based on the article reviewed in question 1, do an exploratory data analysis, design and present your findings, and right a result section based on the outputs presented (No need to pay too much attention to the specific objectives).

Data Description:

There are 14 variables provided in the data set and the last one is the dependent variable. Here is a summary of what each of these variables mean:

1. **Age:** Age of subject
2. **Sex:** Gender of subject:
0 = female 1 = male
3. **Chest-pain type:** Type of chest-pain experienced by the individual:
1 = typical angina
2 = atypical angina
3 = non-angina pain
4 = asymptomatic angina
4. **Resting Blood Pressure:** Resting blood pressure in mm Hg
5. **Serum Cholesterol:** Serum cholesterol in mg/dl
6. **Fasting Blood Sugar:** Fasting blood sugar level relative to 120 mg/dl: 0 =
fasting blood sugar \leq 120 mg/dl
1 = fasting blood sugar $>$ 120 mg/dl

7. **Resting ECG:** Resting electrocardiographic results
 - 0 = normal
 - 1 = ST-T wave abnormality
 - 2 = left ventricle hypertrophy
8. **Max Heart Rate Achieved:** Max heart rate of subject
9. **Exercise Induced Angina:**
 - 0 = no 1 = yes
10. **ST Depression Induced by Exercise Relative to Rest:** ST Depression of subject
11. **Peak Exercise ST Segment:**
 - 1 = Up-sloping
 - 2 = Flat
 - 3 = Down-sloping
12. **Number of Major Vessels (0-3) Visible on Fluoroscopy:** Number of visible vessels under fluoro
13. **Thal:** Form of thalassemia: 3
 - 3 = normal
 - 6 = fixed defect
 - 7 = reversible defect
14. **Diagnosis of Heart Disease:** Indicates whether subject is suffering from heart disease or not:
 - 0 = absence
 - 1, 2, 3, 4 = heart disease present