

# TDS10 Final Project

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Last compiled on: 25 November, 2025

## Abstract

IF you wish, you may add here a short abstract of 100 words max.

## Introduction

“adsadsds”

## Dataset Description

(Write about heart.csv here)

## Data Preparation

```
heartData <- read.csv("heart.csv")
head(heartData)
```

```
##   age    sex    place          cp trestbps chol    fbs      restecg
## 1  63    Male Cleveland typical angina    145  233 TRUE lv hypertrophy
## 2  67    Male Cleveland asymptomatic    160  286 FALSE lv hypertrophy
## 3  67    Male Cleveland asymptomatic    120  229 FALSE lv hypertrophy
## 4  37    Male Cleveland non-anginal    130  250 FALSE      normal
## 5  41 Female Cleveland atypical angina    130  204 FALSE lv hypertrophy
## 6  56    Male Cleveland atypical angina    120  236 FALSE      normal
##   thalch exang oldpeak slope ca
##   thal  hdc
## 1    150 FALSE     2.3 downslloping 0 fixed defect  0
## 2    108 TRUE      1.5         flat  3 normal  2
```

```
## 3    129  TRUE     2.6      flat   2 reversible defect    1
## 4    187 FALSE    3.5 down sloping  0      normal    0
## 5    172 FALSE    1.4 up  sloping  0      normal    0
## 6    178 FALSE    0.8 up  sloping  0      normal    0
```

read.csv()

## Exploratory Data Analysis

(Plots, male vs female age) # Multinomial Logistic Regression — Theory

Question(1.1):

We are using multinomial Logistic Regression because the response variable can take more than 2 categories. For these categories there is a separate set of coefficients and we choose one as the baseline. The coefficients describe how the predictors(age, sex, chol etc.) affect the probability of belonging to each outcome category.

## Multinomial Logistic Regression

(Fit model + interpretation)

## Model Evaluation

(Cross-validation)

## Model Improvement

(Stepwise model / alternative model)

## Binary Logistic Regression

(Create hdc01 + logistic model)

## Model Comparison

(Compare multinomial vs binary)

# **Conclusion**

(Brief summary)