Exercise 1: Titanic

Part A

Titanic data summary

Known age distribution
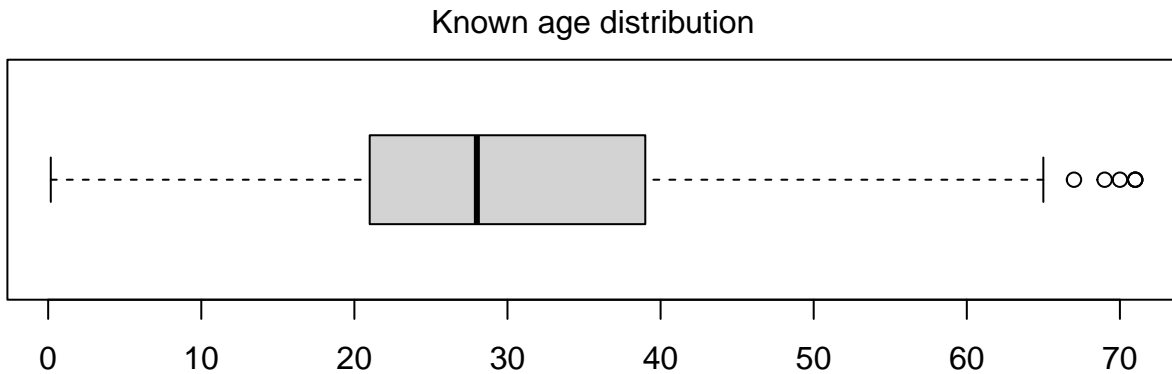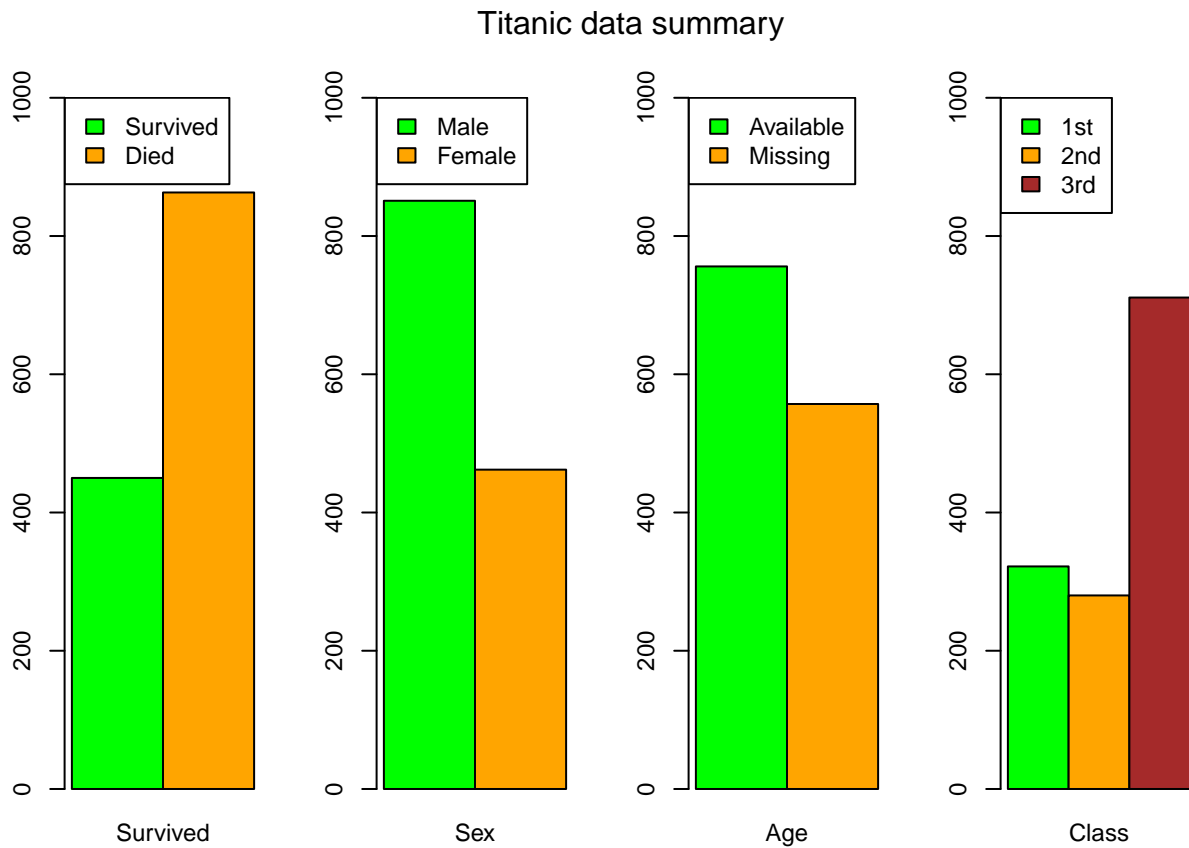
The data for this exercise is a part of the passenger manifest for the Titanic. The dataset covers the names, passenger class, survival status and, when available, the age of 1313 passengers. A summary of the data is given above.

```
# age_glm <- glm(Survived ~ Age, data = data_not_na)
data$Survived
```

```
##    [1] 1 0 0 0 1 1 1 1 0 1 0 0 1 1 1 0 1 0 0 1 1 1 0 1 1 0 1 1 1 0 1 1 1 0 1 1 1 0 0 0 1
##   [38] 1 1 0 1 1 1 1 0 0 0 1 1 1 1 0 1 0 1 0 1 1 1 1 1 1 0 0 1 0 0 1 0 1 1 0 0 1
##   [75] 1 0 1 1 1 0 1 1 1 1 1 1 1 1 1 0 1 1 1 0 1 1 0 1 1 0 1 0 1 1 0 1 0 1 1 1 1 1
##  [112] 1 0 1 0 1 1 1 1 0 1 0 1 1 1 1 0 1 1 1 1 0 1 1 0 1 1 0 0 0 1 1 1 0 1 1 1 1
##  [149] 0 0 1 0 0 0 0 1 1 1 0 1 0 0 1 1 1 0 0 1 0 1 0 1 0 1 0 0 1 0 1 0 1 0 1 1 0
##  [186] 0 0 0 1 1 1 0 1 0 1 0 0 0 0 0 1 0 1 1 0 1 0 1 1 0 1 0 1 0 1 0 1 0 0 1 1 1
##  [223] 1 1 1 1 1 1 1 0 1 1 1 0 0 0 1 0 1 1 1 1 1 0 1 1 0 1 1 1 0 1 0 0 0 1 0 1 1
##  [260] 1 1 0 1 1 0 1 1 0 0 0 0 1 0 1 0 0 0 1 1 0 1 0 1 0 0 1 1 0 1 1 1 1 1 1 1 1
##  [297] 1 1 1 0 0 1 0 1 0 0 0 0 1 0 1 1 0 1 0 1 0 0 1 0 0 1 0 1 0 0 0 1 0 0 0 1 0
##  [334] 0 1 1 0 1 1 1 1 1 1 0 0 0 0 1 0 1 1 0 1 0 0 1 1 1 1 1 0 0 0 0 0 0 0 1 1 0
##  [371] 1 0 0 1 0 1 1 0 0 0 0 0 0 1 1 1 0 0 0 1 0 0 1 1 0 0 1 1 1 1 0 0 0 0 1 0 0
##  [408] 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 1 0 0 1 1 0 0 1 1 1 1 0 1 1 0 0 0 0 1
##  [445] 0 1 0 0 0 1 0 1 0 0 0 1 0 1 0 0 0 0 1 0 1 0 0 1 1 0 0 0 0 0 0 1 0 1 1 1 1
##  [482] 1 0 0 0 0 1 0 0 0 1 1 0 0 1 0 0 0 0 0 1 1 1 0 0 0 0 0 0 0 1 1 0 1 0 0 0
##  [519] 1 1 0 1 1 0 1 0 0 1 0 0 1 0 1 0 1 0 1 1 1 0 0 1 1 0 1 1 1 1 0 1 0 0 1 1 1
##  [556] 1 0 1 0 0 1 0 0 0 0 1 0 1 1 0 0 0 1 0 1 0 0 1 1 1 0 1 1 1 1 1 1 0 1 0 0
##  [593] 0 1 1 1 1 0 0 1 0 0 0 0 0 1 1 1 1 1 0 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 1
##  [630] 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 1 0 1 1 0 1 0 1 0 0 0 0 0 0 1 1 1 1 1 1 0 0 1 0
##  [667] 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
##  [704] 0 0 0 0 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 1 1 0
##  [741] 0 0 1 0 1 0 0 1 1 0 0 0 0 0 0 0 0 0 0 1 0 1 1 1 0 1 1 1 0 0 0 1 0 0 0 0 0
##  [778] 1 1 0 1 0 1 1 0 1 0 0 0 0 0 0 0 0 1 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0
##  [815] 0 1 0 1 1 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 1 0 0 0 0
##  [852] 0 0 0 0 1 0 0 1 0 1 0 0 0 0 1 0 0 0 1 0 1 0 1 0 0 0 0 0 1 0 1 0 0 0 1 0 0 0
##  [889] 0 1 0 1 0 1 0 1 0 0 0 0 0 0 0 0 1 0 0 1 0 0 0 0 1 0 0 1 0 0 0 0 0 1 0 0 1 0
##  [926] 0 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 1 0 0 0 1 0 1 0 1 0 0 0 1 0 0 0 0 0 0 0 0
##  [963] 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0 1 0 0 0 1 0 0 0 0 0 1 0 1 0 0 0 0 0 1 0 1
## [1000] 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 1 0 1 0 0 1 0 0 0 0 1 0 0
## [1037] 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0 0 0 0 1 0 0 0 1
## [1074] 0 0 0 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
## [1111] 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0
## [1148] 0 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0
## [1185] 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0
## [1222] 0 1 0 0 0 1 0 0 0 0 1 0 0 0 1 0 0 0 1 0 0 1 0 0 1 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0
## [1259] 1 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 1 0 0 0 1 0
## [1296] 0 0 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 0
## Levels: 0 1
```