**Homework 2 (Optional)**

1. You can prepare your answers by using RMarkdown (or using R Script).

The dataset **birthwt18.csv** contains information on birth weight for 189 infants as well as information on their mothers’ exposures during pregnancy. The dataset contains the following variables:

|  |  |  |
| --- | --- | --- |
| **Name** | **Description** | **Coding/Unit** |
| ID | Identification number | --- |
| AGE | Age of mother | Years |
| MOWT | Weight of mother at last menstrual period | Grams |
| RACE | Race | 1=White, 2=Black, 3=Other |
| SMOKE | Mother’s smoking status | 0=Non-smoker, 1=Smoker |
| PTL | Number of prior pregnancies with premature labor | 0 (none), 1, 2, 3 |
| HT | Hypertension status in pregnancy | 0=No, 1=Yes |
| UI | Presence of uterine irritability | 0=No, 1=Yes |
| FTV | Number of physician visits during first trimester | 0 (none), 1, 2, 3, 4, 5, 6 |
| BIRTHWT | Birth weight groups | 0=Low, 1=Medium, 2=High |

* 1. Read the dataset into R and call it ds.
  2. Which graph would be appropriate to visually display the MOWT variable? Produce it with R
  3. Which graph would be appropriate to visually display the BIRTHWT variable? Produce it with R
  4. Use R to produce the appropriate descriptive statistics for MOWT
  5. Compute in R two descriptive statistics that would be appropriate to summarize the BIRTHWT variable (2 points)
  6. Compute Mothers’ median age (AGE) by Birth weight groups (BIRTHWT).
  7. Generate box plots of mom’s age (AGE) stratified by birth weight groups (BIRTHWT).
  8. Generate a side-by-side bar plot of birth weight groups (BIRTHWT) stratified by RACE.
  9. Create a scatterplot of child’s birthweight (MOWT) versus mother’s age (AGE)