

Internal Assessment 2

ECON03SEC1
Department of Economics
Presidency University, Kolkata
Full Marks: 40
21/01/2022

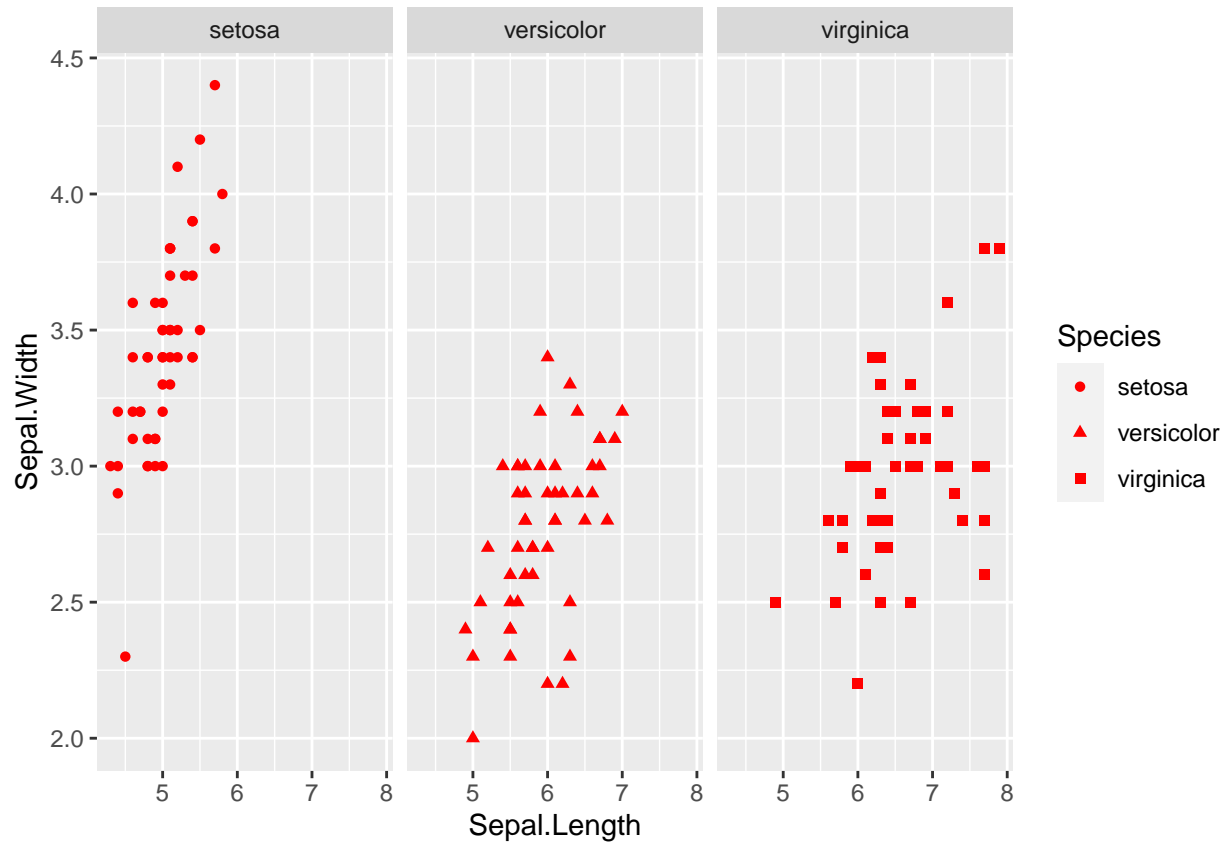
Group 1 (R)

Answer all of the following questions. $[4 \times 5 = 20]$

4. Tidy and replicate the `world_bank_pop` dataset in the `tidyr` package as given below.

```
## # A tibble: 4 x 4
##   country indicator   Year   Population
##   <chr>    <chr>      <chr>      <dbl>
## 1 IND      SP.POP.GROW 2000         1.77
## 2 IND      SP.URB.GROW 2000         2.55
## 3 IND      SP.URB.TOTL 2000    291347596
## 4 IND      SP.POP.TOTL 2000   1053050912
```

4. Using the `iris` dataset in the base R `datasets` package, replicate the following plot.



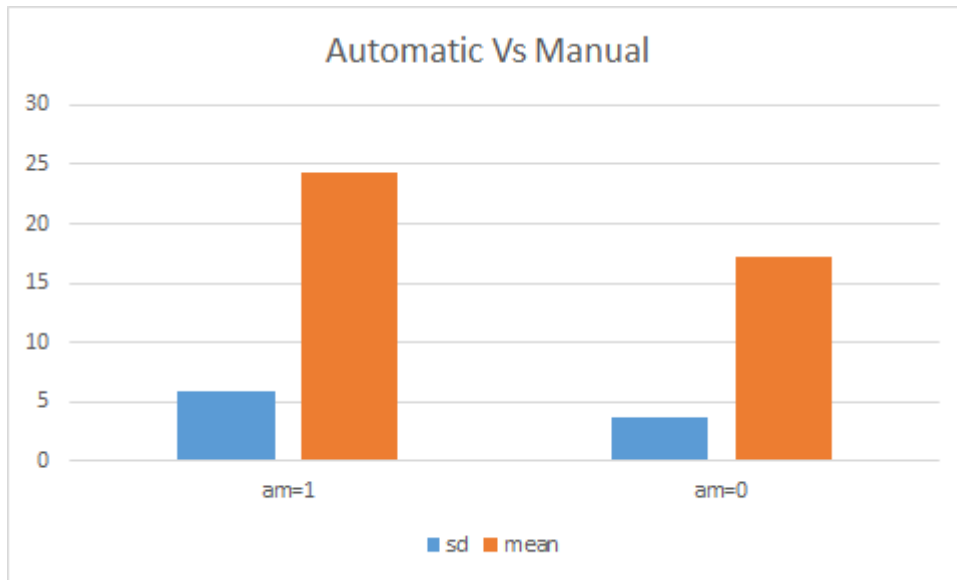
4. In the `starwars` dataset in the `dplyr` package, what is the average mass of female Human species ?
5. Explain the following codes and their outputs.

```
month_levels <- c(
  "Jan", "Feb", "Mar", "Apr", "May", "Jun",
  "Jul", "Aug", "Sep", "Oct", "Nov", "Dec"
)
a4 <- factor(c("Dec", "Apr", "Jan", "Mar"), levels = month_levels)
a4
```

Group 2 (Excel)

Answer all of the following questions. $[4 \times 5 = 20]$

1. Using the `mtcars.xlsx` dataset replicate the following plot.



2. In the file `GDP.xlsx` how many countries do not have data on GDP?
3. How does the number of cylinders `cyl` affect the mileage `mpg` for a given horsepower `hp`? Calculate the partial correlation in the `mtcars.xlsx` dataset.
4. Suppose that the firm's production function is $Q = F(K, L) = 50K^{0.5}L^{0.5}$. Suppose, too, that the price of labour $w=5$ and the price of capital $r=20$. What is the cost minimising input bundle if the firm wants to produce 1,000 units per year?