Internal Assessment 2

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

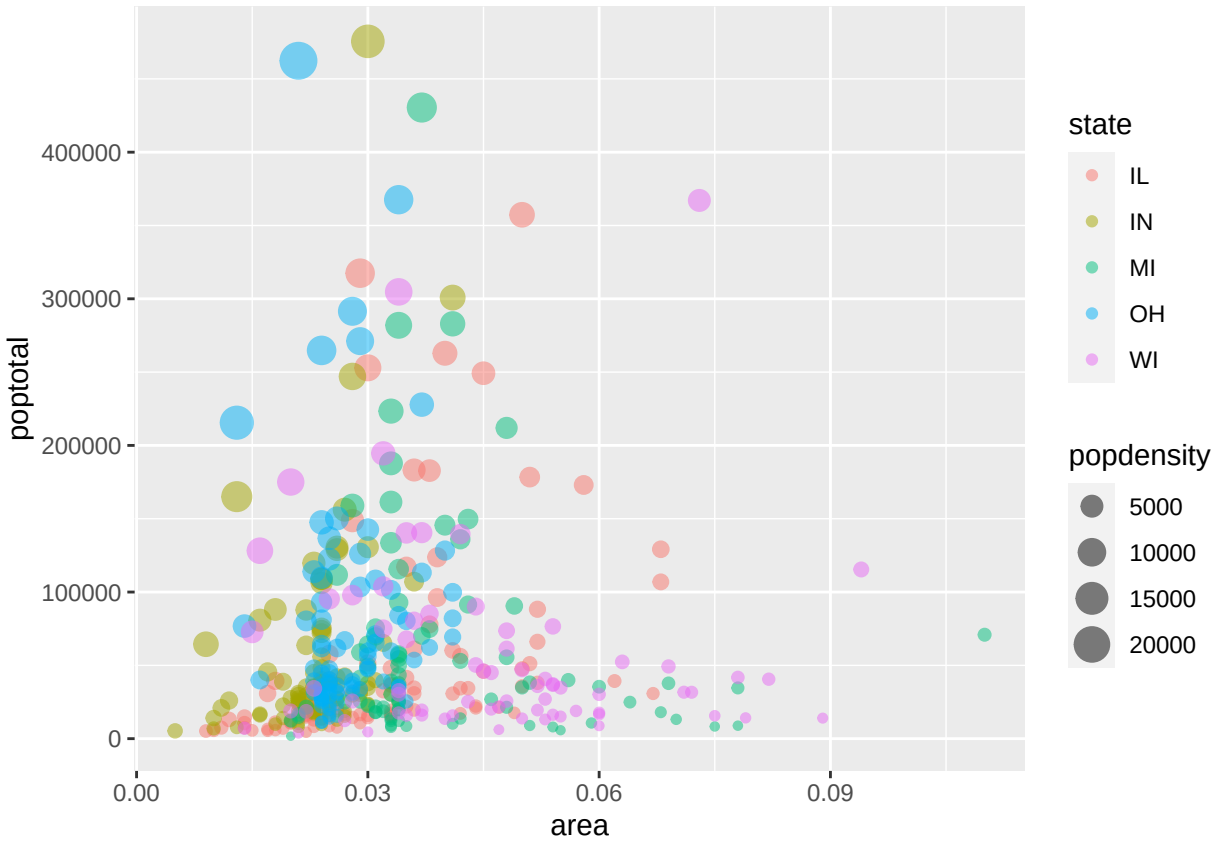
Group 1 (R)

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

1. Explain the following codes and their outputs.

```
a1 <- 12; class(a1); length(a1)
names(a1) <- 'Number'; names(a1)
```

2. Using the `midwest` dataset in the `ggplot2` package, replicate the following plot.



3. How many female humans are there in the `starwars` dataset in the `dplyr` package ?

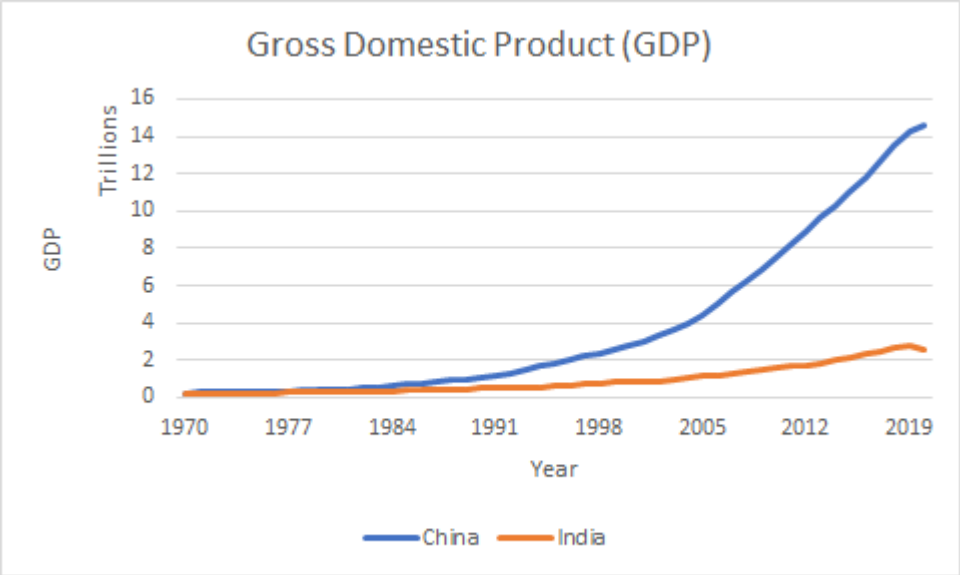
4. Tidy and replicate the `fish_encounters` dataset in the `tidyr` package as given below.

```
## # A tibble: 5 x 12
##   fish  Release I80_1 Lisbon  Rstr Base_TD   BCE   BCW  BCE2  BCW2   MAE   MAW
##   <fct>   <int> <int>  <int> <int>   <int> <int> <int> <int> <int> <int> <int>
## 1 4842        1     1      1     1       1     1     1     1     1     1     1
## 2 4843        1     1      1     1       1     1     1     1     1     1     1
## 3 4844        1     1      1     1       1     1     1     1     1     1     1
## 4 4858        1     1      1     1       1     1     1     1     1     1     1
## 5 4861        1     1      1     1       1     1     1     1     1     1     1
```

Group 2 (Excel)

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

10. Using the `GDP.xlsx` data replicate the following plot.



2. What is the average displacement of a manual car with 4 cylinders in the `mtcars.xlsx` dataset?
3. Rank (without ties) the countries according to the Gross Domestic Product (GDP) in the `GDP.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?