

Exam R I

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Description

The exam will take the form of MCQs. There will be 3 types of questions.
•questions about R and programming (5p) •questions about understanding of R scripts (10p) •questions asking you to use R in order to make calculations (5p)

<TBD> ... In addition, there will be a bonus of 1 or 2 points for the prediction. Solutions with a prediction R2 between 0.7 and 0.85 will get one additional point. Solutions with a prediction R2 larger than 0.85 will get two additional points. <TBD>

Questions about R

Question 1

The function `factor()` takes as an argument:

- a sortable vector of character type
- a boolean
- a matrix
- any vector

Question 2

The function `summary()`

- list the environment object and values
- takes no argument

- prints statistics of a data frame
- invokes methods of the class of its first argument

Questions about interpretations of R code

Question 3

What does this code do ?

```
plot(cars$model,cars$price)
```

- it creates a graph of two vectors
- it creates and display a graph of two variables
- it print two columns of a data set
- it creates a frequency table of variables

Question 4

Which command would return the same value as the following chunk

```
range(cars$price)
```

- `c(min(cars$price),max(cars$price))`
- `cars[pmin($price)][pmax(cars$price)]`
- `cars[which.min(cars$price),"price"] + cars[which.max(cars$price),"price"]`
- `seq(min(cars$price),max(cars$price))`

Questions about production of R code

We use a data set containing mental health in jail data. every observation corresponds to an interview conducted with an inmate. The data set is available in the file : "smp2.csv"

Question 5

How many inmates are employees ?

- 31
- 58
- 90
- 222

Question 6

Run an OLS regressions to estimate the model $\log(\text{dur.interv}) = a + b \cdot \log(\text{age}) + \text{bruit}$. What is the estimated value of the coefficient b ? (dur.interv represents the interview duration)

- -1.712
- 0.02
- 0.13
- 2.35