

E2M2 Ice Breaker and Team Challenge

2019

- Objective: Become an E2M2 champion (and practice R and engage with fellow students, mentors, and instructors)
- You will be assigned to teams that contain a mentor and an instructor
- You will be assigned tasks/challenges. You get points for completing the challenge successfully and extra points for exceptionally good performance as assessed by the judging panel
- The team with the most points will be the E2M2 champions and win a prize
- Mentors and instructors are to participate and help with interpreting the challenges but the majority of the work and all of the R coding challenges should be performed by the students on the team
- Evidence of completion of challenges must be in picture or video form or for tasks requiring R code, an R script file. The R script file must contain all the necessary code to complete the challenge, including loading necessary packages.
- All pictures/videos must be compiled into one PowerPoint file. The slides should reference which challenge they refer to. All challenges involving R code should be compiled into one annotated R script file and submitted by 7:30 pm on Friday January 18.
- THIS IS JUST FOR FUN AND NOT FOR STRESS! Maximum 30 minutes should be spent per day on this

Challenges:

First night challenges:

1. Create a name for your team. Team names must be related to E2M2 themes, R software, and/or modeling. 1 point for having a team name that meets these requirements. Extra point(s) for the most creative team name
2. Create an R script file with the title "E2M2_2019_Team_[Team Name]" that will contain the scripts you write for later challenges. Using the "#" symbol to denote comments in an R script, write the names of the team members in the R script. 1 point for a correctly formatted R script. Introduce yourselves, study the list of challenges, ask for clarification on any challenges, and make a plan to complete the challenges by Friday night

General challenges:

3. Create a logo for your team. 1 point for a high-quality logo, extra point(s) for the most creative team logo
4. In R, write a function named "fun.translate" that takes a Malagasy or English word or phrase from this list as an input parameter and returns the English/Malagasy translation. 1 point for successfully writing the function, extra points for especially good or funny translations of idioms.
 1. Tazomoka
 2. Omby
 3. Fanihy
 4. Tehinanbary
 5. Miala tsiny
 6. Aleo enjehin'ny omby masiaka toy izay enjehin'ny heritreritra
 7. Bitro

8. Bitro voalavo
 9. Fanabeazana
 10. Mahalala fomba
 11. Bothering a chicken butt gives either poop or eggs
 12. Humans are not chickens
 13. You can't teach an old dog new tricks
 14. Don't count your chicks before they hatch
 15. A bird in hand is worth two in the bush
 16. Pull someone's leg
 17. The straw that broke the camel's back
 18. We have bigger fish to fry
 19. It's raining cats and dogs
 20. Down the rabbit hole
5. In R, generate code to produce a scatter plot with this data (plot X versus Y). 1 point for successfully generating code that produces a scatter plot. Up to 3 extra points for adjusting and labeling axes, coloring subsets of the data, and creatively improving the visual appeal of the figure. 2 extra points for the team with the best figure
- a. `X <-`
`c(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1.25,1.25,1.25,1.5,1.5,1.5,1.75,1.75,1.75,2,2,2,2.25,2.25,2.25,2.5,2.5,2.5,2.75,2.75,2.75,3,3,3,3.25,3.25,3.25,3.5,3.5,3.5,3.75,3.75,3.75,4,4,4,6,6.5,7,7.5,8,8.5,9,9,9,8.5,8,7.5,7,6.5,6,6.5,7,7.5,8,8.5,9,11,11,11,11,11,11,11,11,11,11,11.5,12,12.5,13,13.5,14,14.5,15,15,15,15,15,15,15,15,15,17,17.5,18,18.5,19,19.5,20,20,20,19.5,19,18.5,18,17.5,17,17.5,18,18.5,19,19.5,20)`
 - b. `Y <-`
`c(1,2,3,4,5,6,7,8,9,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,8,8.5,9,9,9,8.5,8,7.5,7,6.5,4,3,2,1,1,1,1,1,1,1,1,2,3,4,5,6,7,8,9,8,7,6,5,6,7,8,1,2,3,4,5,6,7,8,9,8,8.5,9,9,9,8.5,8,7.5,7,6,5,4,3,2,1,1,1,1,1,1)`

Daily challenges:

6. Monday: In R, generate code to import the attached data set ("ice_breaker_day1_challenge_data_set.csv"). This data set has errors. Generate R code to find the errors and produce a table that lists the errors by the row and column where they occur. The error reporting data table should have columns "Row", "Column", "Notes on error found in this cell". Teams will receive 0.25 point for each error they are able to identify
7. Tuesday: Find a gecko during the hike in Ranomafana National Park. 1 point for a picture/video of a gecko. 1 point for the team with the best picture/video. 3 extra points for the team to first find (and photograph) *Uroplatus phantasticus*
8. Wednesday: With the help of your mentors and an instructor, find a published paper from 2017 or 2018 that uses compartmental models. 1 point for a screenshot of the title and abstract of a paper that uses compartmental models. 1 extra point for the team with the most interesting paper
9. Thursday: Create a 30 second video that explains the concept of model fitting. All members of the team must appear in the video. The video must have no audio (a silent movie) and must have less than 10 total words of text.
10. Friday: Today's daily challenge is to finish challenges from before that are not yet finished and to compile pictures, videos, and code and then submit.

Extra credit / optional extreme bonus challenges:

Doing these challenges should be done with care to not disrupt lectures or working time

11. Take a picture or video of an animal. 1 point for each species of animal.
12. Create a 30 second or longer cover and music video (clip) of a Dadilove, Shyn, Denise, Elidiot, Black Nadia, Basta Lion, or Mika sy Davis song. 1 point for completing the challenge, extra points for the best and most creative covers and clips

13. One point for each instructor's middle name that you find out
14. One point for each picture or video of a member of your team giving a high five to **Cara**
15. One point for each picture or video of a member of your team telling **Sarah** a joke in Malagasy
16. One point for each picture or video of a member of your team speaking French to **Amy** (when she is not expecting it)
17. One point for each picture or video of a member of your team teaching a new Malagasy word to **Ben**