Update (ice breaker challenges etc)

Feedback from yesterday:
(1) Some more examples of coding in R would be good

Being able to do ecological and epidemiological modeling

La capacité de faire de la modélisation écologique et épidémiologique

Being able to do ecological and epidemiological modeling

La capacité de faire de la modélisation écologique et épidémiologique

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Understanding important concepts

Comprendre les concepts importants

+

Learning from existing R code

Apprendre du R code existant

Being able to do ecological and epidemiological modeling

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What we have been doing mostly

Understanding important concepts

+

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Experience writing your own R code

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Solution: Meet with teams at 6:00-6:30pm today
(1) Instructors demonstrate how to
complete the R coding challenges
(2) Discuss which remaining challenges
should be eliminated

For now:
How are the challenges going?
Which are finished?
Which should we eliminate?

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

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VITA?

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

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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(1,1,1,1,1,1,1,1,1,1.25,1.25,1.25,1.5,1.5,1.5,1.75,1.75,1.75,2,2,2,2.25,2.25,2.25,2.5,2.5,2.5,2.75,2.75,2.75,3,3,3,3.25,3.25,3.25,3.5,3.5,3.5,3.75,3.75,3.75,4,4,4,6,6.5,7,7.5,8,8.5,9,9,9,8.5,8,7.5,7,6.5,6,6.5,7,7.5,8,8.5,9,11,11,11,11,11,11,11,11,11,11.5,12,12.5,13,13.5,14,14.5,15,15,15,15,15,15,15,15,15,17,17.5,18,18.5,19,19.5,20,20,20,19.5,19,18.5,18,17.5,17,17.5,18,18.5,19,19.5,20)

    b. Y <-
    c(1,2,3,4,5,6,7,8,9,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,9,5,1,8,8.5,9,9,9,8.5,8,7.5,7,6,5,4,3,2,1,1,1,1,1,1,1,1,2,3,4,5,6,7,8,9,8,7,6,5,6,7,8,1,2,3,4,5,6,7,8,9,8,8.5,9,9,9,8.5,8,7.5,7,6,5,4,3,2,1,1,1,1,1,1,1,1)

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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.

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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**

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Feedback from yesterday:
(1) Some more examples of coding in R would be good
(2) Ice breaker challenges are adding stress (miala tsiny)

Solution: Meet with teams at 6:00-6:30pm today
(1) Instructors demonstrate how to
complete the R coding challenges
(2) Discuss which remaining challenges
should be eliminated

Notes/guidance for instructors for ice breaker exercises

The coding based challenges were:

- In R, write a function named "fun.translate" that takes a Malagasy or English word or phrase from the list as an input parameter and returns the English/Malagasy translation.

- In R, generate code to produce a scatter plot with the data (plot X versus Y)

- 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".

Note that another potentially annoying challenge was:

- With the help of your mentors and an instructor, find a published paper from 2017 or 2018 that uses compartmental models

See the attached R script for my suggestions on solutions to these problems and some notes here:

- For the "fun.translate" task:
    - The actual translations are meant to be impossible/nonsensical
    - I would take whatever translation as is but I included my translations (which are definitely going to contain mistakes) in the R script
- For the X versus Y plot that produces a pattern that looks like "E2M2":
    - This is as simple as copying and pasting the vectors X and Y then plotting them using base R
    - Infinite elaborations are possible but I would take it as is if they are able to produce the plot
    - I included an example of some modifications you could do
- For the finding errors in the csv file task:
    - I included the list of errors and some sample code (trying to mimic how a beginning student would do this) in the R script
- For the finding an article task, here are some papers:
    - https://onlinelibrary.wiley.com/doi/pdf/10.1002/mma.3841
    - https://www.sciencedirect.com/science/article/pii/S2468042716300203