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Errors in coding are normal and debugging - solving errors is an essential skill for a coder. You might sometimes feel overwhelmed and blocked, but give yourself some time to think and process the errors. Debugging takes time and brain power, and you will get used to it gradually. => Therefore, don't start doing your project/assignments close to the deadline date.

Several suggestion steps on how to debug:

1. **Read the error message**:
   Usually the error message will have an indication of the line where the error occurs. Therefore, check for the **line of code** that might cause errors and the **type of error**.

2. **Critical Review (review everything)**:
   a. Review your code: With the knowledge of which line of code causes errors, check for simple errors: typos, appropriate coding syntax (are you using the correct function, is there ending semicolon, etc.)

   b. Review your data: With knowledge of type of errors: Brainstorm the possible causes and also check the following
      i. Check input data set: check if the dataset exists, the column name exists, etc.
      ii. Check the data type of variables (time, character, numerical, etc) and see if the functions in used accept that type of variable
      iii. Check for previous steps where the dataset might be manipulated and changed.

   c. Gain knowledge of your codes and functions: If the errors are still not clear. Check the following resources:
      i. Search for the error on Google: Copy paste the error into Google. This works if it's relating to syntax errors.
      ii. Documentation: Documentation states clear what the functions take in as inputs and the outputs.
      Example: type the name of the function + documentation on Google to check the documentation. (ex: Proc means documentation)
      iii. Materials: Theory from text book, tutorials from the course, handouts

3. **Ask for help**: Usually at this step, you would want to have the following in hand to present. It would help you and the person who is helping you to have:
   a. The codes + The error line
   b. What methods have you tried to solve the errors after doing your own research online and offline to solve the issues?
   c. Your opinions on the errors - What you have noticed while trying to solve it

   Part B and C in Ask for help are extremely important. The best way to gain debugging skill is to debug on your own and have a critical thinking process. It's also making sure that you are not dependent on the person giving you solutions. Plus, the person helping you won't feel like you didn't put any efforts in solving your own issues.