Class project 5 is a group project presentation. Your choice of project should be agreed with me via Canvas discussion board. A list of ideas is given below.

**Suggested Topics:**

You can choose from the list below:

1. Object-Oriented Design with the UML, ATM case Study
2. Swing Graphical User Interfaces and Java 2D Graphics
3. Generic Collections
4. Java SE 8 Lambdas and Streams
5. Searching, Sorting and Big O
6. Generic Classes and Methods
7. Custom Generic Data Structures
8. Concurrency; Networking
9. JavaFX Graphical User Interfaces, Graphics and Multimedia
10. Database-Driven Desktop and Web Development
11. Accessing Databases with JDBC
12. Data Mining in Java
13. Machine Learning in Java
14. Any other topic of your interest

Two good references for these topics are the book: How to program with Java by Dietel, 10th edition and http://docs.oracle.com/.

The Teams are self-formed, and should include up to 3 (three) students. After you and your teammate choose your topic, please see me to select a good project.

**Your class project is due** April 27, 2017,11:59PM.

**Submission format: You must submit:**

1. Clearly describe how each member of the team contributed to this assignment (in a separate file of your submission, call it individual\_contributions.pdf). **Without this file, I cannot grade your project.**
2. Include all the required codes & README on how to use your project solution to the target project as part of your GitHub portfolio. Please provide us with the link to your GitHub.
3. Microsoft PowerPoint slides at least 20 slides, it must include:

* Title page: project name, your name/partner, and class/section
* Project description and solutions
* Summary slide.
* References
* Thank you page (optional).

1. Record a video presentation of your project with your team. The video should be no longer than 15 minutes.

Record your video here (Links to an external site.) and upload it to Youtube (and not another video hosting service). Be sure to make the video unlisted (but not private!) so people without the link cannot find it on Google (go here (Links to an external site.), click "Edit" on your video, select unlisted from the privacy dropdown menu (Links to an external site.), and save your changes). You can use either your webcam or a smartphone.

Once complete, please provide the embed URL of the video. To find this URL (NOT the entire iframe tag), on the video's normal watch page, you can click Share → Embed (Links to an external site.), and take the link from inside the 'src' attribute of the tag. It looks something like this:

https://www.youtube.com/embed/y9tX5whl2U

Please include the EMBED URL to your video in the first slide of your PowerPoint slide.

**Your grade calculation**: Your grade will be calculated based on your video presentation, the difficulty of the subject, creativity, slides, and understanding of the subject. I encourage you to consider teaming up, primarily because it will allow you to do a more interesting project. I will naturally be judging two-person projects differently from individual projects, but I won't be applying a tougher standard - just looking for a more extensive investigation. The best arrangement is to choose a division of the project so that each of you can work on separate but interlocking parts. Please ask me if you need help with that! Learning teamwork is also one of the more general goals of CS education, so team projects will pick up points for demonstrating a successful ability to work with others.