Problem Solving Session

- The remainder of today's class will comprise the ***problem solving session*** (***PSS***).
- Your instructor will divide you into ***teams of 3 or 4 students***.
- Each team will ***work together*** to solve the following problems for the time remaining in today's class.
  - You may work on paper, a white board, or digitally as determined by your instructor.
  - You will submit your solution by pushing it to GitHub before the end of class.
- Your instructor will go over the solution before the end of class.
- If there is any time remaining, you will begin work on your homework assignment.

Class participation is a significant part of your grade (20%). This includes in class activities and the problem solving session.

Your graders will grade your participation by verifying that you pushed your solutions before the end of the class period each day.

Name:Daniel	Major: Compex
Place of origin:NY	
One interesting fact about me: Basketball	

Name: annabella	Major: Humanities computing and design
Place of origin:NY	
One interesting fact about me: Crochet	

Name: Aiden	Major: Physics and applied mathematics
Place of origin: NY	
One interesting fact about me:	

Problem 1

Getting to know your classmates helps to form a community of students and faculty with a shared goal: helping ***everyone*** to succeed in this course.

Creating a network of friends and colleagues will give you a base of support if you need help on your assignments or developing a better understanding of the material.

Providing help and explaining concepts to your peers is also a ***great*** way to get a more solid grasp on material. It's a win-win!

Spend some time getting to know your team. Fill out the table to the left with information about each member of your problem solving team.

If you are working digitally and need more space, duplicate this slide.

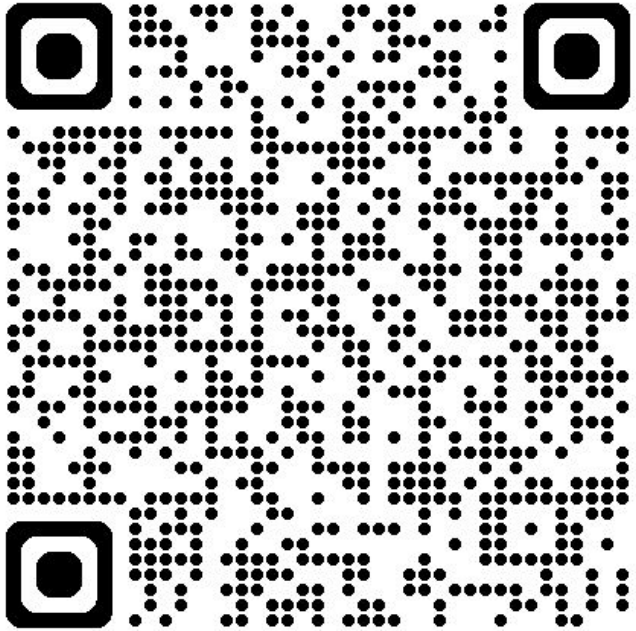
Problem 2

Software Development & Problem Solving is designed for students of ***all*** levels of experience. There are students in this classroom with little or no programming experience, students who have been coding for years, and every skill level in between.

Spend a few minutes talking with your team members about your prior experience with programming (in any language, not just Python).

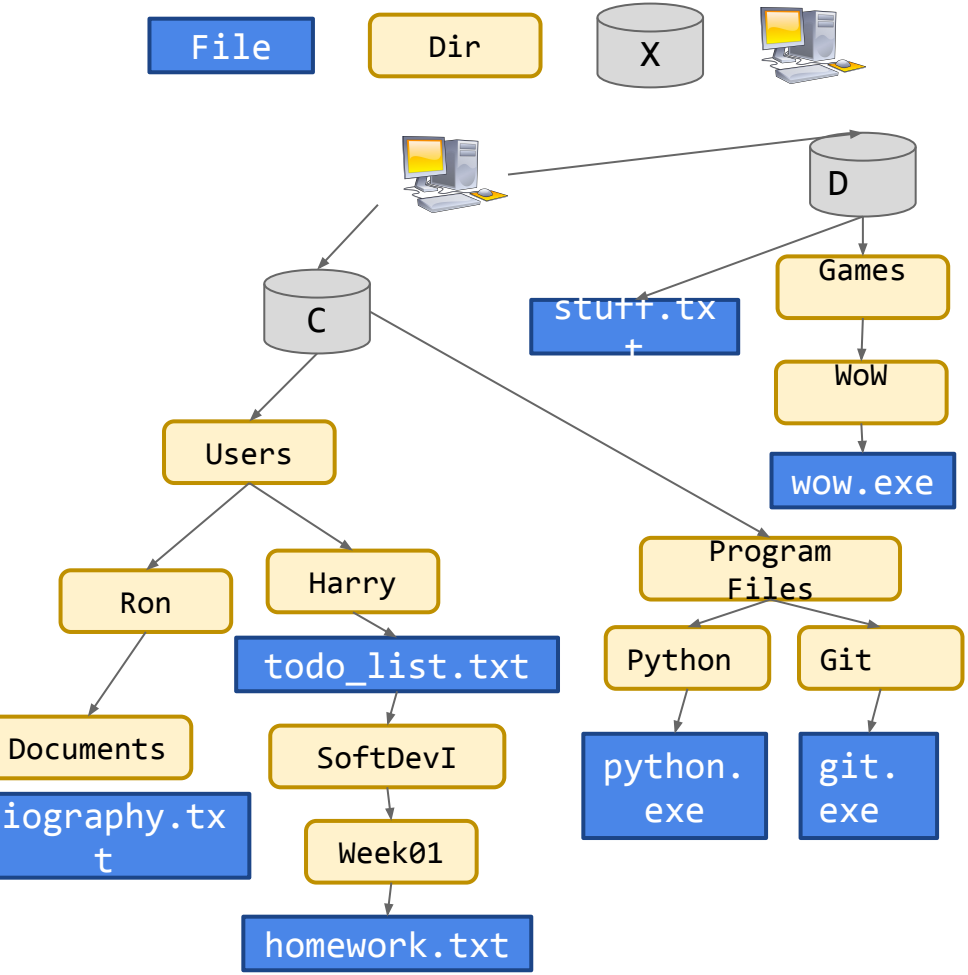
Rate yourselves on a scale of ***0*** (very little or no experience) to ***10*** (you should be teaching this class!).

Use this Google form to tell us about your prior experience. The results will be shared anonymously on the course Discord server.



You will be required to log into your RIT Google account to access the form.

Problem 3



Files in the file system are organized into a ***tree structure***. Visualizing this structure can make finding files and directories more intuitive.

Assume that each of the following is an absolute path to a file in your file system. Draw the tree that represents the structure in the space on the left.

```
/c/Users/Ron/Documents/biography.txt
/c/Users/Ron/SoftDevI/Week01/homework.txt
/c/Users/Harry/todo_list.txt
/c/Program Files/Python/python.exe
/c/Program Files/Git/git.exe
/d/Games/WoW/wow.exe
/d/stuff.txt
```

Your instructor will determine if you should work digitally, on paper, or on a whiteboard. Use the icons to the left as references.

Problem 4

Understanding the status of the files in your repository is important! Have you made changes to any files that need to be committed? What has been added, modified, deleted, or staged since your last commit?

Consider the following commands executed in a Git repository on your computer. Together with your team, describe the status of the file at each step.

1. `vi new_file.txt`
2. `git add new_file.txt`
3. `git commit -m "adding a new file"`
4. `git push`
5. `vi new_file.txt (add text)`

1. A new file is created where the cmd is named new_file.txt
2. The file has been added to the git repo
3. The file has been committed to master branch with the description “adding a new file”
4. Pushes the commit to github
5. If the cmd is set to the same spot as it was originally, the local new_file.txt will change but it will not update the github repository because it was not pushed

1. Ensuring that the files are in the correct location and function as intended will help workflow
2. Read over the summary/steps of the assignment in order to know exactly what you are looking for
3. You should push the new changes out to the github repo
4. Pull / clone from the github repo

Problem 5

Proper use of version control means understanding ***why*** we use it and not just memorizing ***how*** to use it.

Discuss the following questions with your team, and type or write your answers in the space on the right.

1. Why do you think that it is a good idea to check the status before staging files?
2. When starting a brand new assignment, what is the first thing you should do, and why?
3. What is the last thing that you should do before taking a break from working?
4. Assume that you are getting back to work on a different computer. What is the first thing you should do?

Problem 6

Making and overcoming mistakes is an essential part of problem solving.

Talk with your team and identify ***at least three mistakes*** that you made and overcame throughout any of the class activities or homework assignments in this unit. Did any of you make the same kind of mistake?

Be sure to describe specifically what you did to overcome each mistake. Did you look up the solution in the slides? Ask for help on the Discord server? Go to office hours? Something else?

I confused ls and lv
Used the wrong repository
Added to downloads instead of documents
Wrote bi instead of vi

A commit hash

Author of file

Date of log

Commit message

Problem 7

Each entry in a Git log contains 4 pieces of information.

Describe each piece of information and under which circumstances it might be useful.

Consider how the usefulness of the log would be affected by the the frequency of commits and the quality of the comments that you use when you commit to the repository.

Problem 8

Together with your team, brainstorm a solution for each of the situations/problems listed to the right.

If you finish early, you should use the remaining class time to begin working on your homework.

You continue a work in progress on a new computer. Clone the most recent version from github
You accidentally delete the file “`important.txt`”. Use restore, check recycle bin, pull from github
You want to reuse a file from a previous assignment. Open the repo on github and download the file to add it to the new assignment
You want to throw away recent changes that you made to a file. Ctrl z or version history
You forgot to push your solution before the assignment deadline. You should plan better next time