Question 1:
Let's say you want to send a spaceship to land on Mars. If you were to use the waterfall method for this, you would plan out the entire project in advance and plan out exactly how each requirement is to be fulfilled before the rocket is even built. If you were to use the agile method, you would have to be able to respond to changing requirements and deal with things as they come up. For this project, you would want to do the waterfall method way over the agile method. This is because something like spaceflight to Mars costs billions of dollars, and you only get one chance to do it. This means you want to use a method that carefully plans everything in advance over something where decisions are made as the project moves along. You don't want to "deal with things as they appear" when so much is on the line.

Question 2:

Functional Requirements	**Non-functional Requirements**
● Users will be able to hold a virtual ping pong paddle that can bounce virtual ping pong balls onto a virtual table ● The current score of the game must be kept track of in the game ● The user must be able to play with another user with the same table	● There must be at least less than 1ms of lag between what the user sees and what the user does in augmented reality ● The game physics must be at least 95% accurate to real life ● The game must be compatible with all major VR headsets (Occulus, Hive, PS, and Android)

System Requirements	**Software Requirements**
● At least 2 gigs of ram ● Dedicated graphics card ● Camera with DirectShow API	● User must be able to adjust table position ● User must have a main menu where they can access settings and game types ● Software needs to be designed in a modular fashion for reimplementation in future projects

User Stories:
- As a user, I want to be able to easily reset the round if a ball is dropped so that the game can keep moving fast
- As a user, I want to be able to change the location of the virtual table so that I can have better freedom of movement and choice of positions
- As a user, I want to be able to have a settings menu so that I can easily adjust sensitivity and gameplay settings

Question 3:

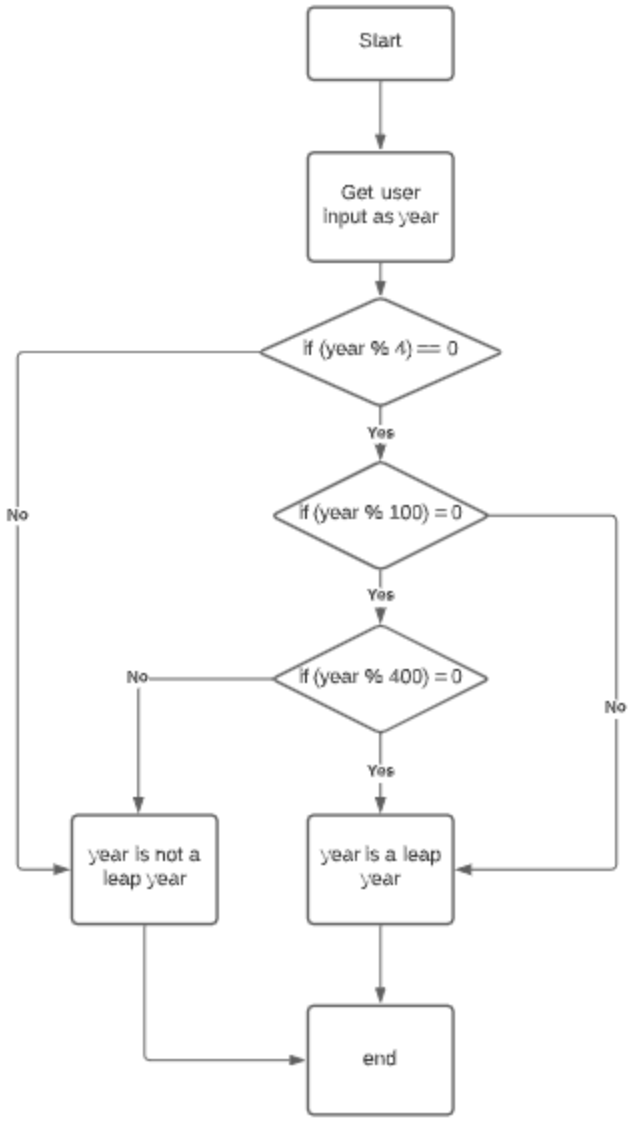
As the scrum master, I would make sure that the sprint back log is continuously up to date with each sprint. I would also make sure that our team meets its goals for each sprint and release, and assure that this is done as efficiently as possible by sticking close to the agile framework. For example, I would lead the sprint retrospective at the end of a sprint, where our team can debrief about what has been done and what improvements to make for the next sprint.

As the product owner, I would arrange the tasks in terms of decreasing order of importance. For these user stories, I would have logging in and assigning TA's as high priority, updating assignments as medium priority, and being able to enter preferences as a low priority. I would also rewrite the user stories in a much more clear and concise way so that it is completely transparent to the rest of the team.

As a member of the development team, my role could include developing the server side database that would store user account information. During sprint planning, I would have to work with my team to develop a timeframe for when certain pieces of the software can be completed. Since the login would be high priority, I would need to try and get the database set up and functional within the first sprint.

Question 4:

Run python script with:
python3 cameron_mccawley_hw1.py
Flowchart on next page:


Start
Get user input as year
if (year % 4) == 0
No
Yes
if (year % 100) = 0
No
Yes
if (year % 400) = 0
No
Yes
year is not a leap year
year is a leap year
end