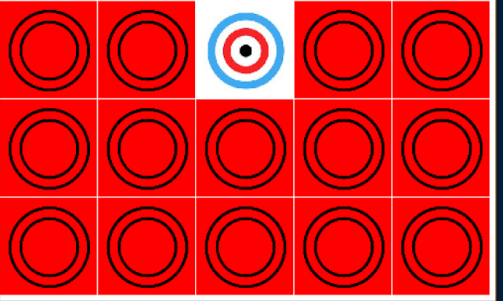
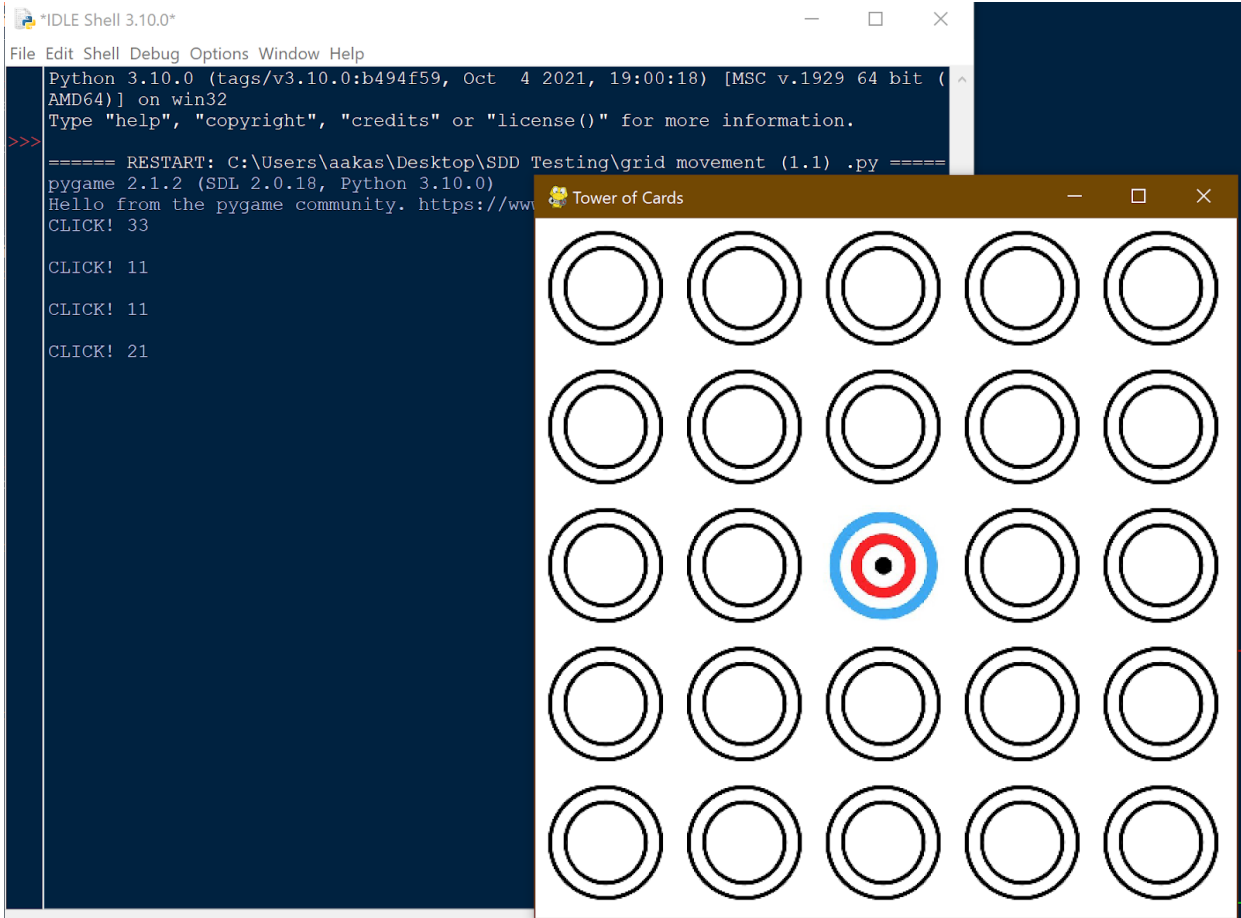
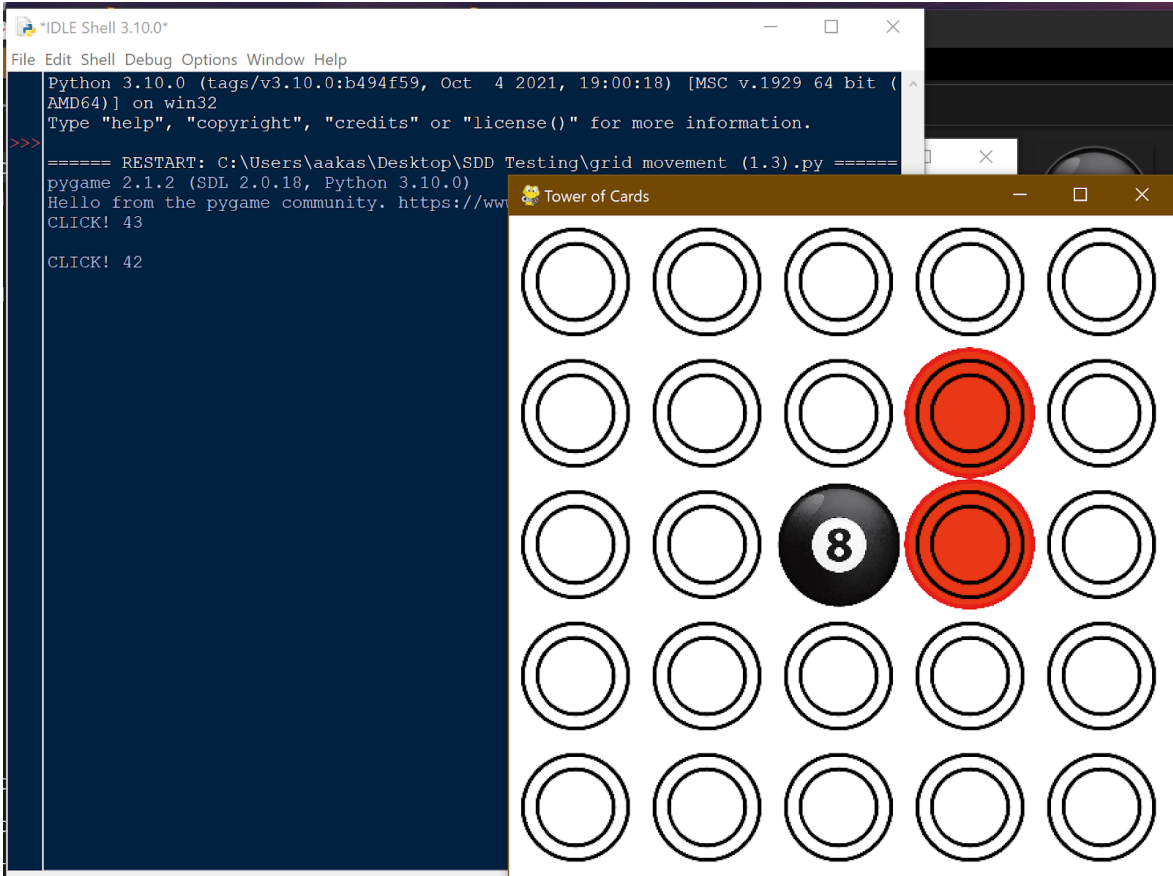
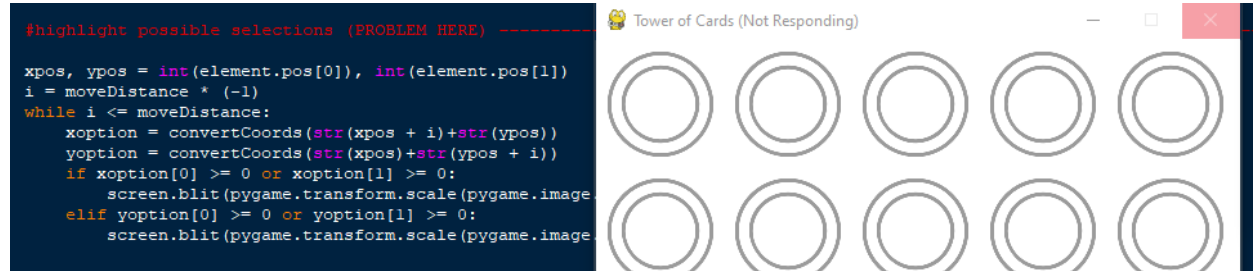
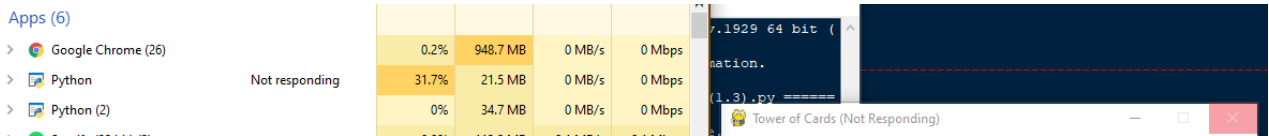


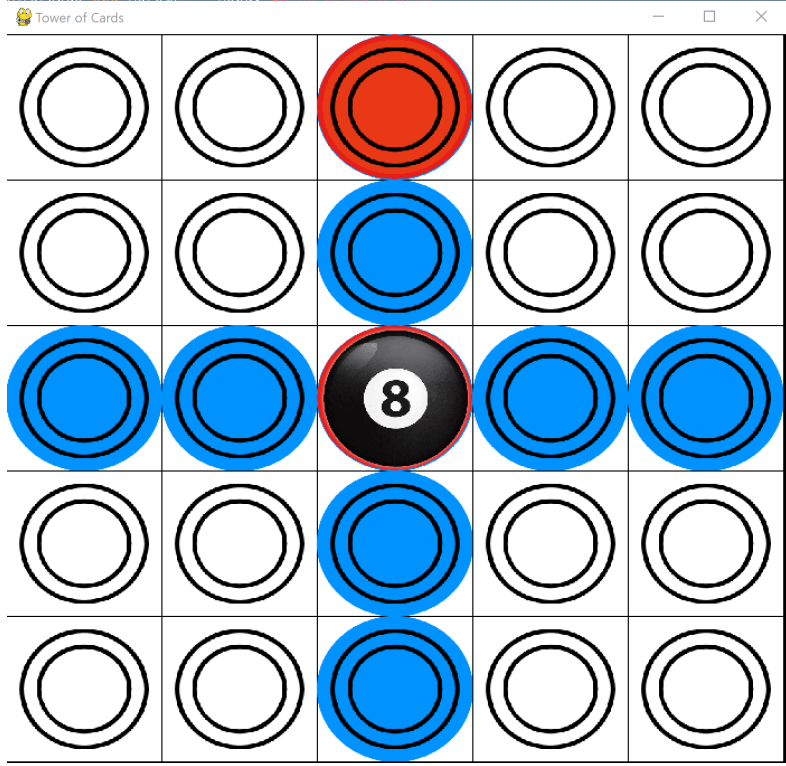
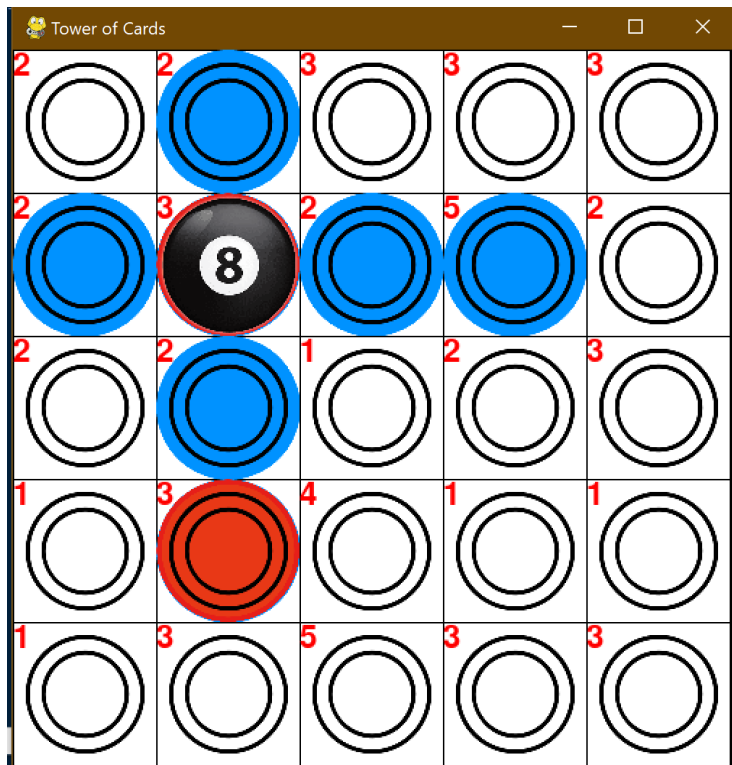
Within the logbook:

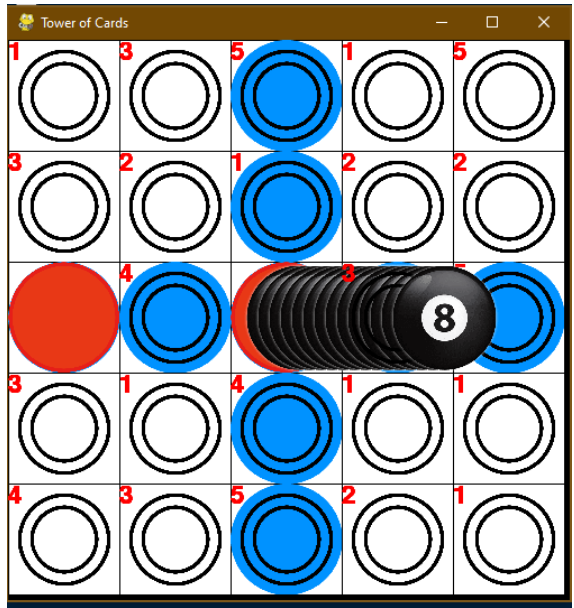
- A list of work completed is to be identified such as:
 - Completed the main menu function
 - Includes a login input and checks against a list of users
 - Added in some colours to the main menu function
 - Imported colorama library
- Challenges or achievements:
 - **Achievement:** Issues with user input have been solved by checking if it is alphabetical.
 - **Challenge:** Using the colorama library of code and attaching it to all documents to be submitted to work properly
- References and links that are vital to the development of the project
 - Geeks For Geeks - Dictionaries - <https://www.geeksforgeeks.org/python-dictionary/>
 - Images can be included to demonstrate the work completed or highlight issues

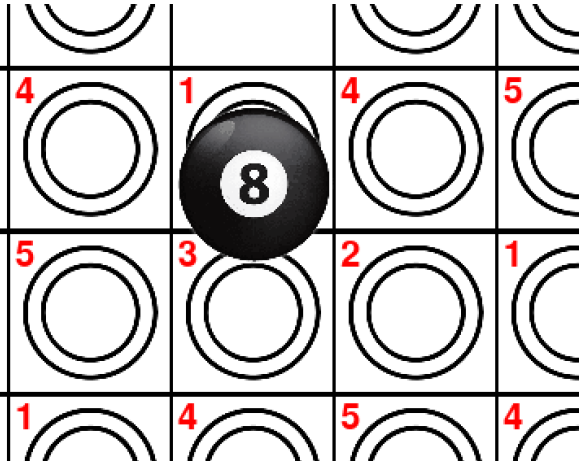
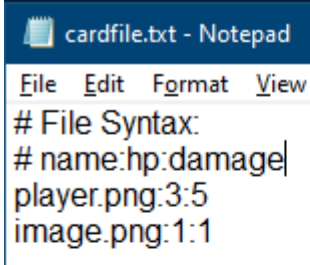
Date	Work Completed	References / Links
02/01/22	<ul style="list-style-type: none">• Looked through pygame tutorials (Which are referred to, multiple times throughout the development of this project)	Pygame links: https://coderslegacy.com/python/python-pygame-tutorial/ https://www.pygame.org/docs/ref/pygame.html
06/01/22	<ul style="list-style-type: none">• Experimented with placing objects in a grid• Researched classes Achievements <ul style="list-style-type: none">• Created a prototype resizable 5x5 grid	Python classes: https://www.learnpython.org/en/Classes_and_Objects https://www.geeksforgeeks.org/python-classes-and-objects/
01/02/22	<ul style="list-style-type: none">• Adjusted grid assignment method in the prototype• Created draft of gantt chart Challenges <ul style="list-style-type: none">• Problem with variable assignments• Problem with the list that stored the grid squares	
02/02/22	<ul style="list-style-type: none">• Removed some unnecessary variables• Fixed variable issues• Started work on detecting when grid squares are clicked by mouse input	
03/02/22	<ul style="list-style-type: none">• Worked on mouse selection	Detecting mouse input:

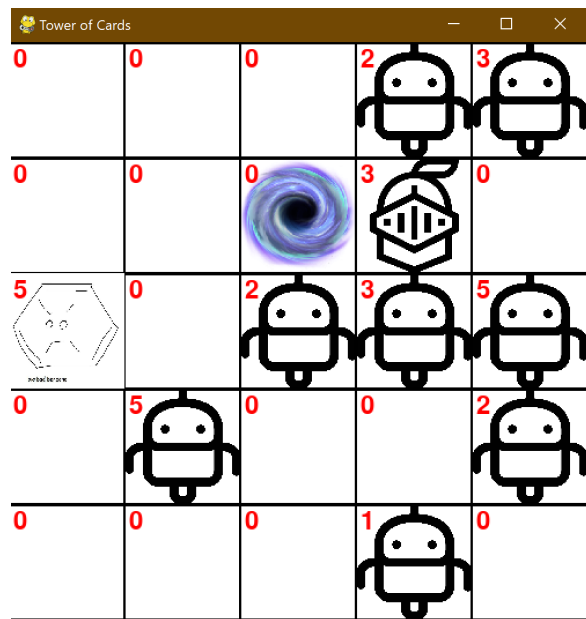

		<pre>mouse = pygame.mouse.get_pos() for event in pygame.event.get(): if event.type == QUIT: pygame.quit() sys.exit() elif event.type == pygame.MOUSEBUTTONDOWN:</pre>
04/02/22	<ul style="list-style-type: none">Tested mouse selection by drawing boxesFixed box selection Challenges <ul style="list-style-type: none">Multiple boxes being selected when one is clicked Achievements <ul style="list-style-type: none">When each grid is clicked, its coordinates are returned	<p>Testing with rectangles:</p> <pre>pygame.draw.rect(screen, (255, 0, 0), (square[0], square[2], xinterval-1, yinterval-1)) if square[0] < mouse[0] < square[1] and square[2] < mouse[1] < square[3]: if click == True: print(f'CLICK! (item.pos)') FLAG----- print() square in grid: #assign image files depending on square.card.cardName match square.squareElement.cardName: case 'image': square.squareElement.display = image case 'target': square.squareElement.display = target case _: print('----- no image file uh oh -----') screen.blit(square.squareElement.display, convertCoords(square.pos))</pre>  <p>Grid Selection:</p> 

09/02/22	<ul style="list-style-type: none">Worked on visual confirmation of selection (highlighting clicked grid squares)	
10/02/22	<ul style="list-style-type: none">Worked on selecting squaresPrevented users from selecting the same square twice. <p>Achievements</p> <ul style="list-style-type: none">Code allows the user to select two grid squares, and highlights them both on click. On third click, both objects are deselected.	<p>Two objects selected:</p> 
11/02/22	<ul style="list-style-type: none">Worked on validating movement selectionAdded a temporary limit of only allowing the user to move two spaces at a timeAdjusted selection function so that the first click is always the user character (in this case, the 8 ball image)Highlighted possible selections after movement <p>Challenge</p> <ul style="list-style-type: none">Code for highlighting valid movement causes program to ‘not respond’ : 	<p>Not responding:</p> 
13/02/22	<ul style="list-style-type: none">Simplified some variables and listsResearched causes for the ‘not responding’ message<ul style="list-style-type: none">Most likely due to high CPU usage	<p>Investigating possible cause:</p> <p>https://www.makeuseof.com/tag/7-common-reasons-why-your-system-is-irresponsive-how-to-solve-them/</p> 
15/02/22	<ul style="list-style-type: none">Worked on grid selection <p>Achievements</p>	<p>http://www.marinamele.com/7-tips-to-time-python-scripts-and-control-memory-and-cpu-usage</p> <p>Current Grid:</p>

	<ul style="list-style-type: none">Fixed issue by simplifying a section of code and moving it to the game loopCreated a visual grid around the objectsFinished grid object selection	
16/02/22	<ul style="list-style-type: none">Worked on object movement and movement animation	
17/02/22	<ul style="list-style-type: none">Looked through notes and test programs to figure out how to display text in pygameImplemented a 'hp' system, where the player can only move onto a square that has lower or equal hp to them. (this 'hp' system is a temporary measure to ensure that the player cannot move onto other enemies when they are implemented)Worked on a movement animation <p>Achievements</p> <ul style="list-style-type: none">Player character (8 ball) can now move around the grid, according to hp and moveDistance limits <p>Challenges</p> <ul style="list-style-type: none">Implemented a movement animation, but there are some bugs<ul style="list-style-type: none">Left movement: multiple copies of the 8 ball appearRight movement: same as above, but the copies appear towards the leftMovement up and down: 8 ball teleports to correct location after a delay	<p>Grid movement and 'hp':</p>  <p>Failed animation:</p>

		
22/02/22	<ul style="list-style-type: none"> Cleaned up code by removing unnecessary variables and repetitions and using more functions Worked on fixing move animation 	
2/03/22	<ul style="list-style-type: none"> Researched enumerate() function Cleaned up code and reorganised functions 	<p>Testing enumerate:</p> <pre>list = [chr(x) for x in range(65, 91)] for num, item in enumerate(list): print(num, item)</pre> <p>https://www.geeksforgeeks.org/enumerate-in-python/</p>
9/03/22	<ul style="list-style-type: none"> Started second version of move animation <p>Challenges</p> <ul style="list-style-type: none"> Multiple bugs as the object doesn't stop moving, leaves a trail of copies and does not work with different sized screens 	
10/03/22	<ul style="list-style-type: none"> Finished move animation Started work on card randomisation <p>Achievements</p> <ul style="list-style-type: none"> Entire program successfully optimised using a new structure Move animation works as required. 	Moving Player Icon:

		
11/03/22	<ul style="list-style-type: none">Started work on random card pickerReworked function that displays images to screen to allow the function to work with any image file supplied	
13/03/22	<ul style="list-style-type: none">Created a txt file to store card statsFixed some errors regarding use of exec() function	<p>Research on exec() function: https://stackoverflow.com/questions/23168282/setting-variables-with-exec-inside-a-function</p> <p>Txt file:</p> 
14/03/22	<ul style="list-style-type: none">Worked on random card drawing <p>Achievements</p> <ul style="list-style-type: none">Finished card randomiser and selector <p>Challenges</p> <ul style="list-style-type: none">Though the program works as intended, response time between user input and screen output is very slow	<p>Randomly generated grid:</p>

		
16/03/22	<ul style="list-style-type: none"> Accidentally fixed response time issue, when experimenting with code. This was probably due to combining some 'if' statements together. However the same problem may arise again when more code is added to the game loop. (Refer back to link on right if that happens) 	Optimising Code: https://www.loginradius.com/blog/async/speed-up-python-code/
21/03 - 04/04	<ul style="list-style-type: none"> Half Yearly Exams No progress on project apart from finding a good online image editor 	Image Editor: https://pinetools.com/pixelate-effect-image
07/04/22	<ul style="list-style-type: none"> Improved aesthetics of gantt chart and made it look neater 	
08/04/22	<ul style="list-style-type: none"> Created a list of different types of biomes and enemies across levels 1 to 100 Searched for backgrounds 	
12/04/22	<ul style="list-style-type: none"> Used image editor to pixelate backgrounds and edit them to suit the project 	Biome 4 Background: 
13/04/22	<ul style="list-style-type: none"> Created player sprite and other miscellaneous images (attack/health icon, portal icon) 	
14/04/22	<ul style="list-style-type: none"> Created all enemy sprites and boss sprite 	

	<ul style="list-style-type: none"> Organised current assets into folder 	
19/04/22	<ul style="list-style-type: none"> Created audio assets <ul style="list-style-type: none"> Background music for game SFX (Move, click, enter portal etc.) <p>Achievements</p> <ul style="list-style-type: none"> Finished making all assets 	
20/04/22	<ul style="list-style-type: none"> Made data flow diagrams: <ul style="list-style-type: none"> Level 1 Level 2: ('Game' process from level 1) 	
21/04 - 22/04	<ul style="list-style-type: none"> Remade some sprites and added new ones Edited data flow diagrams 	
26/04/22	<ul style="list-style-type: none"> Compiled Part A files and submitted <p>Achievements</p> <ul style="list-style-type: none"> <u>Part A Submitted</u> 	