

## **Team 5-**

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### **How to setup:**

install python/pip (follow online instructions)

install pyusb (pip install -pre pyusb)

### **How to run:**

run from terminal, cd into root directory

sudo python battleSnakesOO.py

### **Game instructions:**

**Environment** : Running on Ubuntu

**Setup** : Have python and pip installed. Read game\_help.txt for more information and run

pip install -r gameReq.txt

Download pygame

### **How to run :**

python battleSnakesOO.py

**Objective:** The increase the length of your snake as much as possible (by either eating the red fruit and increasing your length OR by eating the green fruit and decreasing the length of the other snake) and avoid the other snake.

1. Choose the team using the A or B on the iclicker
2. Directions
  - a. A - up
  - b. B - left
  - c. C - right
  - d. D - down
3. A particular snake dies if it collides with the side of the other snake
4. A snake does not die if a key is pressed in the opposite direction as which the snake is currently going
5. The red fruit increases the length of the snake that eats it and the green fruit decreases the length of the other snake when a particular snake eats it
6. Running into the boundary causes the snake to die
7. Head on collision causes the game to tie if the snakes are of equal length. Otherwise, the snake which is longer wins.

#	Defect	Output Before seeding	Output After seeding	Severity	BB/W B	Suggested Correction
1	Game - score starts with 1 instead of 0	Scores are correct	Game score starts with 1	3	BB	Change the argument sent to score()
2	iClickerBase does not check if it's initialized before making calls	Nothing, program works	Program will crash if base is not initialized	1	BB	Check that the base is initialized before each call
3	iClickerResponse parse_alpha hex is one off	Correct responses are read	Responses are read as different letters	2	BB	Change response data to (response) - 0x81 + 65
4	Game - The second green fruit decreases the length of the snake which eats it	The length of the other snake decreases	The length of the snake eating the fruit decreases	2	BB	Whenever a particular snake eats decrease the variable which records the length of the other snake
5	Game - Initial direction of a snake does not change to default direction upon restart	The snake's initial direction is set to default direction for both the snakes	The snake's initial direction is the same as the direction it had when it died the last time	3	BB	Initialize global direction for both the snakes inside the main gameLoop
6	The input indicator, always shows 0 clicks for each click	The input indicator shows the correct amount of clicks for each input	The input indicator shows the 4 for the number of clicks for each input	1	BB	use len of each input array, instead of len of the list of the input list
7	Game - The	There is no white	All fruits appear	3	BB	Use a software (preview

	pictures of the fruits used have a white background, making the game look untidy	background surrounding the fruit	with a white background surrounding the actual picture			on Mac) to create a transparent background for the images used
8	Game - The text displayed is not aligned	Text wasn't aligned before	Text is now aligned	3	BB	Used pygames center method to center the text
9	Snake doesn't die when it hits the right side boundary	Snake dies when it hits the right side boundary	Snake doesn't die instantly when it hits the right side boundary	2	BB	Checks for collision with the entire head size and not just the top left coordinates of the snake
10	The calculated percentages for each input on the input graphs are wrong	The input percentages are twice what they're supposed to be, causing the bars to overflow the screen	The input graphs show the correct percentages for both graphs	3	BB	Instead of dividing by half of the total, divide the the actual total
11	Apple could appear on snake body since it's position is completely random	Apple does not appear on the snake's body	Apple appears on the snake's body sometimes	2	WB	Before spawning the fruit check if the coordinates exist in either of the snake-lists (snakelist1 and snakelist2)
12	When a snake eats the apple, the size increases by 2	The size of the snake increases by 1 when it eats the apple	The size of the snake increases by 2 when it eats the apple	2	BB	When the snake eats the apple, increment the size by 1 instead of 2

13	Game - The snakes hitting the boundary at the same time causes the green snake to win	The game identifies a tie correctly when both the snakes hit the boundary at the same time	The game gets over and one of the snakes wins when both the snakes run into the boundary at the same time (and same size)	2	BB	Before ending the game, check if the the other snake also hits the boundary
14	Head - on collision of snake results in green snake winning when the lengths are the same	The game identifies a tie correctly when both the snakes collide head - on with same length	The green snake wins when the snakes collide head-on with same length	2	BB	Check for equal length upon head on collision
15	When the game starts, the snakes face the opposite direction of where they're moving	The snakes face the right direction when game starts	The snakes face the opposite direction when game starts	1	WB	Initialize the default game input to be in the expected direction
16	When the game gets over and the q button is pressed to quit the game, the game does not quit	The window which appears after the game gets over closes once the q button is pressed	The window which appears after the game gets over does not close once the q button is pressed	3	BB	Add a variable which checks the condition in which the quit button is pressed in the code which is used for the exit screen
17	The game does not stop when the length of one of the snakes becomes zero	The game does not stop when the length of one of the snakes becomes zero	The game ends the length of one of the snakes becomes less than one	2	WB	Check the length of the snakes after any of the them eats fruit. Snake A should win if the length of Snake B becomes zero

18	The snake dies when an input of the opposite direction is given than to the direction of the snake	The game ignores inputs for the opposite direction of the snake's direction	The snake dies when an input of the opposite direction than the snake's direction is given	1	BB	Check the direction of the snake and ignore input for the opposite direction
19	iClickerPoll add_response() only records the last response per clicker	Responses are recorded properly and there is a list of previous responses for each clicker	Only one response per clicker is recorded	3	BB	Append response to end of list
20	iClickerPoll add_response() doesn't check if the response was recorded already	Responses are recorded properly	Duplicate responses can be found in response array	3	BB	Check if the response was recorded already by either checking if the response exists, or by using the response_number int to keep track of which responses are already read
21	iClickerResponse is_valid_response() doesn't check for correct length before trying to parse the data	Responses are recorded correctly	May throw errors depending on the input, responses and clicker id's are off	2	BB	Check that data is 32 bytes
22	iClickerPoll poll_loop() only checks for one response instead of 2	Responses are recorded correctly	One response is recorded per packet, may lose responses	2	WB	Add for loop to iterate over responses to make sure they are all accounted for

23	iClickerPoll start_poll() doesn't check if base is initialized	Poll starts properly	May crash if base is not initialized	1	WB	Check if base is initialized before starting poll
24	iPacket doesn't check max length of data	Packets are received and written properly	Unexpected behavior may occur, may crash	2	WB	Make sure data is <=64 bytes
25	iPacket doesn't pad data on init	Packets are received and written properly	Unexpected behavior may occur, may crash	2	WB	Make sure data is padded