

ACIT 2515 Final Project:

## Create Snake game with pygame

game is going to work with 6 different entities such as:

1. Snake
2. Tail Group
3. Tail Box
4. Red apple
5. Green apple
6. Bonus

The objective of the game is to eat as many red apples and rabbits as possible and avoid green apples

The game mechanism works as follows:

It has 5 screens including:

1. Welcome: 2 buttons are given to choose from, start and help
2. Help: instruction of the game is displayed. A button is provided (Back) to go back to welcome screen.
3. Game: game starts here where snake and other entities run.
4. Pause: user can stop the game by pressing SPACE\_KEY and it takes you to pause page that current point and health is displayed. 2 buttons are given, resume and quit. If resume button clicked, game starts from where it was left.
5. Game Over: user final points are displayed and 2 buttons, start and quit, are given to either restart the game or leave.

When player uses the arrow keys on the keyboard, the snake moves in the appropriate direction. However, if given direction is opposite to the current direction, movement is not effective and stays the same. Snake moves with its head.

User can press space key to pause the game for unlimited time. By that, user will be taken to another screen that displays snake current points and health. User can resume the game by click on "resume" button.

Before snake eats 4 apples, no walls are detected. So, by leaving the window screen, snake will appear in opposite direction. For example, if snake is going through screen towards top, the snake will come out from bottom with the same length of tail as it left screen from top.

After snake eats 4 apples, a message will appear on the screen that walls are detected as limitation. If hit, snake die, and game is over (screen moves to the next page). Message will disappear after snake eat next apple.

Apples and rabbits are randomly generated food for snake to die with green apple and live along with red apple and rabbit.

If snake head hit its own body, game is over.

Every time snake eats a red apple, one block adds to his head as tail, the point of snake increases by one and speed increases. After snake ate an apple, the position of apple changes.

After eating 2 red apples, a green apple appears on screen as poison. if snake eats green apple, its health decreases by one and speed increases. If snake ignores green apple and eats red apple, the position of green apple changes. In addition, snake tail starts to bend. Snake tails follows the head direction.

A rabbit as bonus appears on screen after eating the 4th, 7th, 9th apple. If snake eats a rabbit, in these 3 times, snake point increase by three.

Every time snake one object the position of all other objects, rabbit, green apple, and red apple changes.

Enjoy the game!