Lab Exercises Week 6

1 Linked Lists

Using the file *LinkList.h*provided in blackboard, do the following:

- Add an overloaded `Push()` function to the link list class provided on blackboard to allow elements to be inserted anywhere within the lists container. Then position where elements are to be inserted shouldbe specified by an iterator.
- Create a class `GameAction` that contains the following private variables:

  ```
  actionName (string)
  actionDuration (float)
  nextAction (string)
  actionElapsed (float)
  ```

  and a method `void update(float dt)` that updates `actionElapsed` by `dt` miliseconds.
- Create a simple gaming scenario (for example use actions "Patrol"-"EnemyDetect"-"ThrowBomb"). Fill up a list with such actions and maintain it updating the list every `dt` seconds. You can use an infinite loop that does the following:
  - Patrol
  - Every `dt` miliseconds detect the enemy with a defined probability, say 20%. If so, next action must be EnemyDetect that has a nextAction "ThrowBomb". If one cycle of patroling is complete, add a next Patrol.