**First Iteration of Project**

The functions that are included in the first iteration are loading of the map from string, get the height and width of the map for it to be loaded, create an instance of level, construct the map, edit each cell on map, undo and redo actions, and display the map with characters.

**Here is a list of features that are included on the first iteration.**

* Read from String.
* First stage compression
  + Write a switch case
    - Case “.\_\_\_” = ‘H’
    - Case “. ” = ‘D’
    - Case “ ” = ‘S’
    - Case “| ” = ‘V’
    - Case “ X ” = ‘X’
    - Case “| X ” = ‘C’
    - Case “ T ” = ‘T’
    - Case “| T ” = ‘Y’
    - Case “ M ” = ‘M’
    - Case “| M ” = ‘K’
    - default = ‘ ’
* Second stage compression
  + Compress identical single characters which repeat continuously after another. eg. ‘5A’ which is ‘AAAA’
  + Do not put brackets
* Third stage compression
  + Compress identical set of characters which repeat continuously after another. e.g. 5[ab3[cd]]
  + Keep trying to compress until it’s not compressible anymore.
  + Put brackets on them
* First stage decompression
  + First iteration look for brackets and expand them 5[ab3[cd]]
  + Look again for brackets
  + Keep looking and trying until there are no brackets left on the String.
  + Now look for single characters and expand them e.g. 5A
* Second Stage decompression
  + Write a switch case
    - Case ‘H’ = “.\_\_\_”
    - Case ‘D’ = “. ”
    - Case ‘S’ = “ ”
    - Case ‘V’ = “| ”
    - Case ‘X’ = “ X ”
    - Case ‘C’ = “| X ”
    - Case ‘T’ = “ T ”
    - Case ‘Y’ = “| T ”
    - Case ‘M’ = “ M ”
    - Case ‘K’ = “| M ”
    - default = ‘ ’
* Load map from text file.
* Save map to text file
* Write string to text file.
* Read file and convert to string.
* Prompt for file location.
* Exception case features
  + If several Theseus and/or Minotaur on map then “Multiple Actors Exception”
  + If unknown Char e.g. ”G” which is not in the list then “unknown Symbol exception”
  + If no Actors (“T” or “M”) then raise “no Actors exception”
  + If no Exit “X” then raise “game complete exception”
  + If opening and closing brackets are not equal then raise” Not equal brackets”
  + If closing bracket is found before opening bracket then raise “Closing bracket found before opening bracket”
  + File does not exist.
  + Error handler (try to load a wrong file).
* Display string file.

**Feature List that could be added on the next Iteration.**

* File last modification time
* File last modification date
* Outside wall must be closed.
* The initial position of each actor must not cause a stalemate.