Final project design document

**Idea**

A program that is user control a character to move from (0,0) of the board to (7,7) of the board and avoid the mines in the board.

**Inputs/Outputs**

**Input**: user’s choice of seeing it’s position and blood left.

**Input:** user’s input of how far should the character move horizontally and vertically

**Output:** User’s position and blood

**Output:** if the user has stepped on the mines

**Output:** if the user has successfully made it and its score

**Sample run:**

y

your position is (0,0)

y

your blood is 100

Variables

The board as a 2d array

The mines as an array within an array

The user’s choice of position and blood

The user’s choice of how far it goes

List of Tasks

1. prompt the welcome message and describe the message’s rule

2. ask the user for number of players and name

Error: if the user’s input is not a number, output the error message

a. create the corresponding amount of instances

b. open a file : score.txt

3. loop over the step 4 to step 11 until every one has finished the game

4. another loop over the step 5 to 11 until this player has reached to [7,7]

5. ask if the user want to see the character’s position

Error: if the user chooses something else other than y or n, prompt the error message and let the user choose again

a. prompt the user’s location if user choose y

6. ask if the user want to see the character’s blood left

Error: if the user chooses something else other than y or n, prompt the error message and let the user choose again

a. prompt the user’s blood if user choose y

7. ask how far would user like to move horizontally, negative number is left, positive number is right

Error: if the user’s input is beyond the board’s boundary, output the error message

Error: if the user’s input is not a number, output the error message

a. move the character step by step

b. if any step encounters the mines in that location, prompt the message

c. reduce the character’s blood by 50

d.check if the blood left is 0

(1) yes, break out the inner loop

(2) no, continue

8. check if the blood left is 0

(1) yes, break out the outer loop

(2) no. continue

9. ask how far would user like to move vertically,negative number is up, positive number is down

Error: if the user’s input is beyond the board’s boundary, output the error message

Error: if the user’s input is not a number, output the error message

a. move the character step by step

b. if any step encounters the mines in that location, prompt the message

c. reduce the character’s blood by 50

d.check if the blood left is 0

(1) yes, break out the inner loop

(2) no, continue

10. check if the blood left is 0

(1) yes, break out the outer loop

(2) no. continue

11. check if the blood left is zero

(1) yes, print out the fail message

(2) no, write the user’s information into the score file

12. print out the final message and close the file

Requirements fulfilled

1. File I/O: I use the file to save the player’s score who succeed in the game.

Eg: “f= open("scores.txt","w+")

f.write ("player blood steps\n")

f.write(str(playername[i])+" " + str(nameblood) + " "+ str(steps)+"\n" )”

2. Error Handling: For most of the players input, I have import the try except block into it. Specifically, some user’s inputs are not what I want but it is not in the exceptions range. So I customize some exceptions that when the condition is satisfied, I raise the exception and catch it in the except block.

Eg: “try:

optdirect = raw\_input("how far do you wnat to go Vertivally?(negative# for up, positive# for down )")

optdirect = int(optdirect)

#if user's input is valid break out the loop

if 0-name[i].position[1] <= optdirect <= 7-name[i].position[1]:

break

#if not raise the defined error

raise rangeError

#handle the error

except rangeError:

print "You need to move within the Board's range"

except ValueError:

print "please enter a number!" “

3. Class/Objects: I designed a multiplayers game. So each player is an instance of the class. I made an array of instances of players and get each player’s information by access the array with specific index.

Eg: name.append(playername[i])

name[i]= character()