README

1.bullet.cpp

No changes

2.shooter.h

line 12 - initialised a new variable called shooter\_life to 3(gives the health of the shooter).

line 118 - created a member function of void return type called "shooter\_color" which changes the colour of the shooter every time it is hit by a bubble and its life decrements by 1.

When the life is 3, the shooter colour is "GREEN".

When the life is 2, the shooter colour is "BLUE".

When the life is 1, the shooter colour is "RED".

When the life is 0, the game ends.

3.bubble.h

line 2 - included the header file "shooter.h". Now since shooter.h file already includes bullet.h file ,all the bullet and shooter properties can now be accessed.

line 10 - initialised the BUBBLE\_DEFAULT\_VY to 50.

line 11 - moved the const int PLAY\_Y\_HEIGHT from main.cpp file to bubble.h.

line 12 - created and initialised const int "a" denoting the acceleration along y axis.

line 13 - created and initialised a variable of int type "score" representing the no. of times the shooter hits bubbles.

line 16 - declared the vector of bullets without initialising.

line 22 - created a new variable of type double "new\_vy" which stores the instantaneous velocity of the bubble along y direction.

line 36 - initialised new\_vy.

line 41 - created and initialised an int variable"time till now" which records the time of the most recent collision of that bubble with the shooter.

line 43 - changed the fuction type from void to bool.

line 45 - added a code to check the collision between the bubble and the bullets. It deletes the bullet after the collision, updates the score, and returns false.

line 57 - updated new\_vy according to the acceleration.

line 58 - updated new\_y according to the acceleration.

line 70 - added code to make the bubble bounce along the y direction.

line 76 - returns true.

4.main.cpp

line 2 - includes only "bubble.h" as it already includes "shooter.h" which in turn includes "bullet.h".

line 11 - created and initialised an int variable "loop" which keeps count of the number of while loop completed in int main().

line 12 - created and initialides an int variable "time" which keeps count of the time passed.

line 27 - code to update the bubbles and check if a bubble is hit by a bullet and if it is hit we create two new bubbles with half the radius and delete the original bubble.

line 64 - creation of various textboxes for displaying life\_count, time and score.

line 80 - code to update the shooter life i.e to check for collision between the bubbles and the shooter.

line 89 - converting int variables like score, time and shooter\_life.

line 97 - updating the Message on the textboxes with each loop.

line 126 - updating the colour of the shooter if it was hit by any bubble.

line 130 - incrementing the number of loops.

line 131 - updating the time variable.

line 133 - break out of the loop if the game ends due to any of the conditions.

line 141 - final display on the screen.

link for win condition:

<https://drive.google.com/file/d/1o8GrBMdtqAVevR9AswCyZJwHRA3uNqnA/view?usp=sharing>

link for lost due to life condition:

<https://drive.google.com/file/d/1Mr7_5fbYiuDG3x2Yet5V7Xx-8E37UU9Z/view?usp=sharing>

link for lost due to time condition:

<https://drive.google.com/file/d/1ebM3ed-mBKm-DRWPmmmWwnquPw4P_iAy/view?usp=sharing>