### Bullet Hell

### Overview - setting

We donr know how we got here but your currently in a super dangerous zone theres bullets raining everywhere and you need to survive as long as possible.

Use the arrow keys to move and munerver around the platforms to dodge youe best..

## 

### Game states

intro -> gamePlay -> pause -> gamePlay or Quit

* **Intro**
  + show title
  + Everything else hidden
* **GamePlay**
  + title hidden
  + Arrow keys to move up left and right
  + Bullets begin to fall
  + All sprites shown
  + score and timer are revealed and progress as planned
* **Quit**
  + game ends

### Sprites:

* **Player**
  + user-controlled character
  + Moves left and right and up with arrow keys
  + Has a floater jump and slowly falls
  + wraps around screen
  + when hit losses hp
* **Bullet**
  + computer controlled element
  + Falls from the top of screen
  + Fall speed is random
  + wraps around screen
  + when hits player, reset self
  + reset - change position randomly
  + multiple bullets will be on the screen. Start with 10

### UI components

* **Background**
  + A nice mountain png
  + shouldn't make it hard to sprites
  + Outdoor terrain
* **Title**
  + Basic instructions screen multilabel
  + When clicked, gameplay starts
* **LblTimer**
  + will start at a prescribed time
  + label will always show time left
  + when time gets to zero, game ends player “wins”
  + game over - show reset and quit buttons and last score
* **LblScore**
  + label showing current score
  + add points for each second survived
* **LblHealth**
  + appears in game
  + Drop from 3 by 1 when contacts bullet
  + When it hits 0 game over screen
* **BtnQuit**
  + appears in pause state
  + when clicked, exits entire game

### Sound Effects

* **explosive**
  + played player hits bullets
* **Background music**
  + something fun - creative commons - lower priority

### Milestones

* Gather placeholder resources
* Get basic form of game class up and running so we can expand on it
* Add Player class - test user control system
* Add Bullet class - deals damage should be avoided
* Check standard collision - upon bullet with player
* Create list of bullets, check collision behavior with multiple bullets
* Create a platoformer map for movement
* Add health system.
* Add scorekeeping and lblScore - test
* Add timekeeping and lblTime - test
* Add quit button - test
* Add reset button - test
* Add intro - test

### Game tuning parameters

* speed of player
* speed of bullets
* randomness of bullets
* number of bullets

### Stretch goals

* Coin that increase score to promote movement
* Background music
* Actual animated player sprite
* Hard mode that increase bullet count when certain score is reached

MAIN FUNCTION:

SET keepGoing = True

SET score

WHILE keepGoing:

CREATE Instructions Scene WITH score

START Instructions Scene

IF Instructions response IS "Play":

CREATE Game Scene

START Game Scene

SET score TO Game's score

ELSE:

SET keepGoing TO False

CLASS: Bullet

INITIALIZE Bullet WITH scene

SET image TO "bullet.png"

SET size TO ()

CALL reset()

FUNCTION reset():

SET y TO 10

SET x TO random value between 0 and screen width

SET dy TO random value between

SET dx TO random value between

FUNCTION checkBounds():

IF bottom IS OUTSIDE screen height:

CALL reset()

CLASS: LblHealth

INITIALIZE Label

SET text TO "Health: 3"

SET center position TO ()

CLASS: Player

INITIALIZE Player WITH scene

SET animations, position, size, and health

INITIALIZE walk animation

SET inAir TO True

FUNCTION process():

SET walking TO False

CHECK if Player is on ground

APPLY gravity IF inAir

CHECK input for UP key

APPLY jump force IF not inAir

UPDATE animation

CHECK input for LEFT and RIGHT keys

MOVE player

UPDATE animation

CHECK collisions WITH platforms

STOP falling IF collision happens

CLASS: Platform

INITIALIZE Platform WITH scene AND position

SET color and size

FUNCTION update():

UPDATE platform state

CLASS: Block

INITIALIZE Block WITH scene AND position

SET image and size

CLASS: LblTime

INITIALIZE Label

SET text TO "Time Left:"

SET center position TO ()

CLASS: LblScore

INITIALIZE Label

SET text TO "Score: "

SET center position TO ()

CLASS: Game

INITIALIZE Game

SET background image, labels, player, bullets, platforms, and blocks

CREATE bullet objects

INITIALIZE timer, score, and sound

FUNCTION process():

FOR each bullet IN bullets:

IF Player collides WITH bullet:

PLAY sound

CALL bullet.reset()

REDUCE Player's health

UPDATE health label

IF health <= 0:

STOP game

UPDATE time label WITH timer

IF timer reaches 0:

STOP game

IF time remains:

INCREASE score

UPDATE score label

CLASS: Instructions

INITIALIZE Instructions WITH previous score

SET instructions text and buttons

SET response TO "Play"

FUNCTION process():

CHECK button clicks or key presses

UPDATE response and STOP scene based on input