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Assignment Cover Letter

(Individual Work)

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Course Code	**: COMP6335**	**Course Name**	**: Introduction to Programming**
Class	**: L1AC**	**Name of Lecturer(s)**	**:** 1. Bagus Kerthyayana 2. Tri Asih Budiono
Major	**: CS**		
Title of Assignment (if any)	: brick breaker		
Type of Assignment	**: Final Project**		
Submission Pattern			
Due Date	**: 6-11-2017**	**Submission Date**	**: 6-11-2017**

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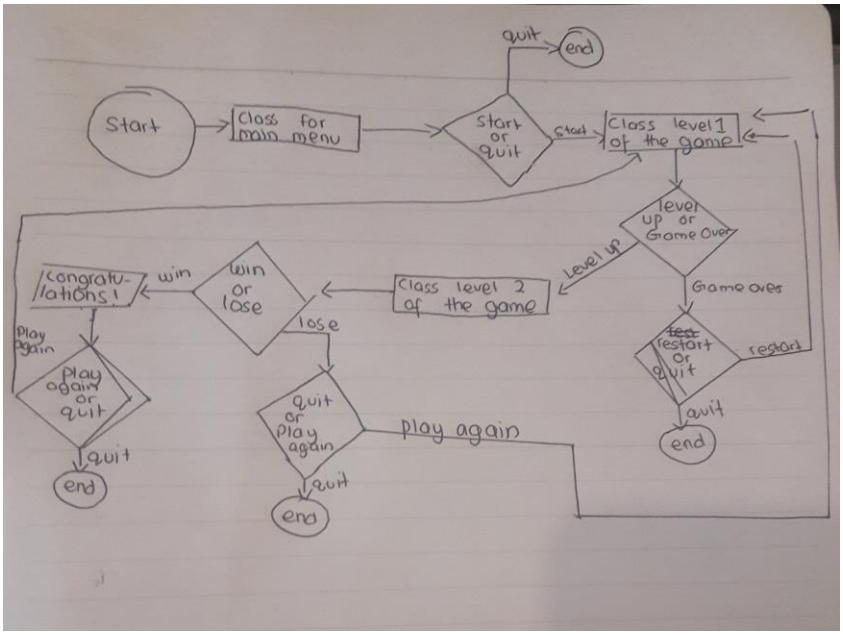
Signature of Student: (Name of Student) Krishita Sukhani

“Brick Breaker”

Name :Krishita Sukhani

ID : 2101716773



I. Description

The function of this program:

This is a classic Brick breaker game, the point of the game is to break all the bricks(blocks) and catching the ball with the paddle without the ball falling out of the game as that would immediately end the game.

There are 2 levels of the game the 1st one has more spaces between the bricks making it easier as well as a slower ball movement making it easier for players to catch it and a longer distance between the brick and the paddle

II. what was implemented and how it works

1. **the menu():**
   - is a function that works by giving you 2 options
   - if you choose to play the game it calls the level 1 of the game
   - if you choose to quit then it calls the pygame.quit()
2. **level 1 and level 2(is a class) :**
   - this holds the characteristics such as the height width color of the Paddle (used to catch the ball), the ball(used to break the bricks) , the bricks also called as a block, also holds the direction and speed as well as swap which is later on used for the “ballUpdates”

- this holds createBlocks which tells the program where to locate the x axis and y axis of the blocks in this level of the game as well as the width and the height of the blocks
- holds the ball update that tells the system what to do with the ball when the ball bounces back from the paddle after it is caught it includes the balls speed, the balls angles and the direction or what to do with the ball if it is not caught by the paddle, the ball update also has the score i.e if it reaches its maximum score it will move on to the next level or else if the ball falls off the game area then the system will show the gameover function
- holds the paddleUpdate which tells the system what to do when the user is dragging the paddle by the keypad and it updates the paddles every move
- the main, this holds the while loop for the game and the background as well as the sound

3. The end
    - The end function tells the system what to do if the user had lost already , users loose when they do not catch the ball
    - Either allows you to restart which will call the level1 class and lets you play again
    - Or it either allows you to exit the system if you no longer wish to play
4. WINNER
    - Is a function that is called when the user have completed both the levels
    - It prints a congratulation note

III. A brief teaser on the game

1. Menu

:

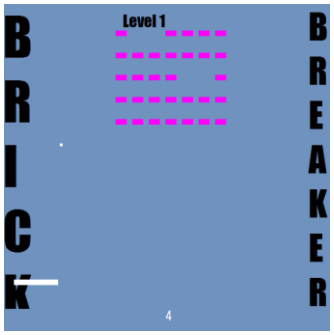
```
def menu():
    pygame.init()
    screen= pygame.display.set_mode((320,480))
    pygame.display.set_caption('Brick Breaker')
    bg = pygame.image.load("1.JPG")
    start = textrect("Arial ","Start",30,100,130,255,255,255)
    quit = textrect("Arial","Quit",30,100,300,255,255,255)
    while True :
        screen.blit(bg, (0,0))
        text = Group(start,quit)
        text.draw(screen)
        a = event.wait()
        if start.rect.collidepoint(mouse.get_pos()):
            start = textrect("Arial","Start",30,100,130,0,0,255)
            if a.type == MOUSEBUTTONDOWN:
                level1().main()
                level2().main()

        else:
            start = textrect("Arial","Start",30,100,130,255,255,255)

        if quit.rect.collidepoint(mouse.get_pos()):
            quit = textrect("Arial","Quit",30,100,300,0,255,0)
            if a.type == MOUSEBUTTONDOWN:
                pygame.quit()
        else:
            quit = textrect("Arial","Quit",30,100,300,255,255,255)

            pygame.display.update()
menu()
```

2.Level 1



```
class level1:
    def __init__(self):
        self.screen = pygame.display.set_mode((600, 600))

        # pygame.display.set_mode((width, height)) - This will launch a window of the desired size
        self.blocks = []
        self.paddle = [[pygame.Rect(320, 520, 60, 20), 120],# ( x ,y , width, height)
                [pygame.Rect(360, 520, 60, 20), 100],
                [pygame.Rect(400, 520, 60, 20), 80],
                [pygame.Rect(420, 520, 60, 20), 45], ]
        self.ball = pygame.Rect(300, 500 , 5, 5)
        self.direction = -2 # the more you increasse the direction the more difficult the game bcomes
        self.yDirection = -1
        self.angle = 80
        self.speeds = {
            120:(-10, -3),
            100:(-10, -8),
            80:(10, -8),
            45:(10, -3),
        }
        self.swap = { # what this does is that when the paddle catches the ball the ball will bounce to the wall and it will keep bouncing till it ei
            120:45,
            45:120,
            100:80,
            80:100,}
        pygame.font.init()
        self.font = pygame.font.SysFont("Arial", 25,(400,300))
        self.score = 0

    def createBlocks(self):
        self.blocks = []
        y = 50 # y axis of the block in the game
        for brick in range(100 // 20):#positions the bricks properly throughout the x axis
            x = 210  # x axis of the blocks in the game


                for _ in range(300 // 45 - 3):  # the 4vv inside a vracket explains how many blocks r there in this stage or the game
                    block = pygame.Rect(x, y, 20, 10)# (basically shows x axis, y axis, the width of the bricks, the height of the bricks)
                    self.blocks.append(block)
                    x += 30
                y += 40

            def ballUpdate(self):# movements of the ball throughout the game

                for _ in range(2):
                    speed = self.speeds[self.angle]
                    xMovement = True #shows the action carried out when the ball moves
                    if _:
                        self.ball.x += speed[0] * self.direction
                    else:
                        self.ball.y += speed[1] * self.direction * self.yDirection
                        xMovement = False
                    if self.ball.x <= 0 or self.ball.x >= 600: # limits where the ball can go so it will not allow the ball to go outside of the screen
                        self.angle = self.swap[self.angle]# while playing the ball is enabled to work properly
                        if self.ball.x <= 0:
                            self.ball.x = 1# this is the minimal x axis the bll can go so that d ball does not go out of the frame
                        else:
                            self.ball.x = 599 # this is the maximum x axis the ball can go
                    if self.ball.y <= 0:
                        self.ball.y = 1
                        self.yDirection *= -1

                    for paddle in self.paddle:
                        if paddle[0].colliderect(self.ball):
                            self.angle = paddle[1]
                            self.direction = -1
                            self.yDirection = -1

                    check = self.ball.collidelist(self.blocks)
                    if check != -1:
                        block = self.blocks.pop(check)

                def paddleUpdate(self):
                    pos = pygame.mouse.get_pos()#enables you to control the paddle with your mouse or your touchpad
                    on = 0
                    for p in self.paddle:
                        p[0].x = pos[0] + 20 * on
                        on += 1
                def main(self):
                    pygame.mouse.set_visible(False)#does not show the mouse
                    clock = pygame.time.Clock()# creates an object that helps track time
                    self.createBlocks()
                    background_image= pygame.image.load("level1.jpg").convert()

                    while True:
                      clock.tick(20)#as the level progresses the clock tick increases the fps
                      for event in pygame.event.get():
                            if event.type == QUIT:
                                sys.exit()
                      self.screen.blit(background_image,[0,0])
                      self.paddleUpdate()
                      self.ballUpdate()

                      for block in self.blocks:
                            pygame.draw.rect(self.screen, (255,0,255), block)
                      for paddle in self.paddle:
                            pygame.draw.rect(self.screen, (255,255,255), paddle[0])
                      pygame.draw.rect(self.screen, (255,255,255), self.ball)
                      self.screen.blit(self.font.render(str(self.score), -1, (255,255,255)), (300, 537)) # draws the image onto the screen
                      pygame.display.update()
```

3.The end (what shows when the player has lost)

```
def end():
    go = textrect("Arial ","Game Over",50,200,300,0,255,0)
    restart = textrect("Arial","Restart",50,200,200,0,0,255)
    screen = pygame.display.set_mode((600, 600))
    pygame.mouse.set_visible(True)

    while True :
        screen.fill((0,0,0))
        options = Group(go,restart)
        options.draw(screen)
        display.update()
        b = event.wait()
        if restart.rect.collidepoint(mouse.get_pos()):
            restart = textrect("Arial","Restart",50,200,200,0,0,255)
            if b.type == MOUSEBUTTONDOWN:
                level1().main()
        else:
            restart = textrect("Arial","Restart",50,200,200,255,0,0)

        if go.rect.collidepoint(mouse.get_pos()):
            go = textrect("Arial","GameOver",50,200,300,255,0,255)
            if b.type == MOUSEBUTTONDOWN:
                pygame.quit()
        else:
            go = textrect("Arial","GameOver",50,200,300,0,255,0)

            pygame.display.update()
```

4.The winner(shows what happens when the player has defeated both levels)

```
def winner():
    Congratulations = textrect("Arial ","Congratulations! You have won the game!",36,50,300,255,0,0)
    screen = pygame.display.set_mode((600, 600))
    pygame.mouse.set_visible(True)

    while True :
        screen.fill((0,0,0))
        display.update()
        congrats = Group(Congratulations)
        congrats.draw(screen)
        c = event.wait()
        if Congratulations.rect.collidepoint(mouse.get_pos()):
            Congratulations = textrect("Arial ","Congratulations! You have won the game!",36,50,300,0,255,0)
            if c.type == MOUSEBUTTONDOWN:
                pygame.quit()
        else:
            Congratulations = textrect("Arial ","Congratulations! You have won the game!",36,50,300,255,0,0)
        pygame.display.update()
```

Documentation

1. 27 October 2017: *(basic game)*

   I have created the very basic functioning class for my game, for now I call my class BackBone and what it does is it breaks the bricks when it collides with the ball and the game would immediately end if the paddle does not catch the ball

```
class Backbone:
    def __init__(self):
        self.screen = pygame.display.set_mode((800, 600))
        self.blocks = []
        self.paddle = [[pygame.Rect(300, 500, 20, 10), 120],
                [pygame.Rect(320, 500, 20, 10),100],
                [pygame.Rect(340, 500, 20, 10),80],
                [pygame.Rect(360, 500, 20, 10),45],
        ]
        self.ball = pygame.Rect(300, 490, 5, 5)
        self.direction = -1
        self.yDirection = -1
        self.angle = 80
        self.speeds = {
            120:(-10, -3),
            100:(-10, -8),
            80:(10, -8),
            45:(10, -3),
        }
        self.swap = {
            120:45,
            45:120,
            100:80,
            80:100,
        }
        pygame.font.init()
        self.font = pygame.font.SysFont("Arial", 25)
        self.score = 0

    def createBlocks(self):
        self.blocks = []
        y = 50
        for __ in range(200 / 10):
            x = 50
```

2. 28 October 2017: *(level 1 and 2 of the game)*

   Made a level 2 for my brick breaker program, I tried making a super class that is the backbone and 2 separate classes as a child class called level1 and level2 however I decided to just make 2 separate classes for each level

```
class level2:
    def __init__(self):
        self.screen = pygame.display.set_mode((600, 600))
        #pygame.display.set_mode((width, height)) - This wil
        self.blocks = []
        self.paddle = [[pygame.Rect(300, 500, 20, 10), 120],
                       [pygame.Rect(320, 500, 20, 10), 100],
                       [pygame.Rect(340, 500, 20, 10), 80],
                       [pygame.Rect(360, 500, 20, 10), 45],]
        self.ball = pygame.Rect(300, 500 , 5, 5)
        self.direction = -2
        self.yDirection = -1
        self.angle = 80
        self.speeds = {
            120:(-10, -3),
            100:(-10, -8),
            80:(10, -8),
            45:(10, -3),
        }
        self.swap = {
            120:45,
            45:120,
            100:80,
            80:100,
        }
        pygame.font.init()
        self.font = pygame.font.SysFont("Arial", 25)
        self.score = 0

    def createBlocks(self):
        self.blocks = []
        y = 50#y axis of the block in the game
        for __ in range(200 // 20):
            x = 210  #x axis of the blocks in the game
```

3.

4. 30 October 2017: *(creating menu and end)*

   Every game needs a menu so for today I created a menu function for my game, it is a very simple menu as it has 2 options that is to start the game or to quit

```
def menu():
    pygame.init()
    screen= pygame.display.set_mode((600,600))
    pygame.display.set_caption('Brick Breaker')
    screen.fill((0,0,0))
    start = textrect("Arial ","Start",50,250,250,255,255,255)
    quit = textrect("Arial","Quit",50,250,350,255,255,255)
    while True :
        screen.fill((0,0,0))
        text = Group(start,quit)
        text.draw(screen)
        a = event.wait()
        if start.rect.collidepoint(mouse.get_pos()):
            start = textrect("Arial","Start",50,250,250,0,0,255)
            if a.type == MOUSEBUTTONDOWN:
                level1().main()
                level2().main()

        else:
            start = textrect("Arial","Start",50,250,250,255,255,255)

        if quit.rect.collidepoint(mouse.get_pos()):
            quit = textrect("Arial","Quit",50,250,350,0,255,0)
            if a.type == MOUSEBUTTONDOWN:
                pygame.quit()
        else:
            quit = textrect("Arial","Quit",50,250,350,255,255,255)

            pygame.display.update()
menu()
```

```
def end():
    go = textrect("Arial ","Game Over",50,200,300,0,255,0)
    restart = textrect("Arial","Restart",50,200,200,0,0,255)
    screen = pygame.display.set_mode((600, 600))
    pygame.mouse.set_visible(True)

    while True :
        screen.fill((0,0,0))
        options = Group(go,restart)
        options.draw(screen)
        display.update()
        b = event.wait()
        if restart.rect.collidepoint(mouse.get_pos()):
            restart = textrect("Arial","Restart",50,200,200,0,0,255)
            if b.type == MOUSEBUTTONDOWN:
                level1().main()
        else:
            restart = textrect("Arial","Restart",50,200,200,255,0,0)

        if go.rect.collidepoint(mouse.get_pos()):
            go = textrect("Arial","GameOver",50,200,300,255,0,255)
            if b.type == MOUSEBUTTONDOWN:
                pygame.quit()
        else:
            go = textrect("Arial","GameOver",50,200,300,0,255,0)

            pygame.display.update()
```

   After creating the menu I realized that every beginning must have an ending therefore I created another function for end, this will occur if the paddle does not catch the ball. I also modified both my classes so if the ball falls out of its respective frames then the game would immediately end

5. 1 November 2017: (sound effects)

   Used pygame.mixer.Sound to play a sound when the ball collides with the block as well as when the game dies

```
crash_sound = pygame.mixer.Sound("break.WAV")
gameover_sound= pygame.mixer.Sound("die.WAV")
```

```
check = self.ball.collidelist(self.blocks)
if check != -1:
    block = self.blocks.pop(check)
    pygame.mixer.Sound.play(crash_sound)
    if xMovement:
        self.direction *= -1
    self.yDirection *= -1
    self.score += 1
    if self.score == 35:
        level2().main()
if self.ball.y > 600:
    pygame.mixer.Sound.play(gameover_sound)
    end()
```

6. 3 November 2017: (the winner)

   This is a function that is called once all the blocks from both the levels have been popped

```
def winner():
    Congratulations = textrect("Arial ","Congratulations! You have won the game!",36,50,300,255,0,0)
    screen = pygame.display.set_mode((600, 600))
    pygame.mouse.set_visible(True)

    while True :
        screen.fill((0,0,0))
        display.update()
        congrats = Group(Congratulations)
        congrats.draw(screen)
        c = event.wait()
        if Congratulations.rect.collidepoint(mouse.get_pos()):
            Congratulations = textrect("Arial ","Congratulations! You have won the game!",36,50,300,0,255,0)
            if c.type == MOUSEBUTTONDOWN:
                pygame.quit()
        else:
            Congratulations = textrect("Arial ","Congratulations! You have won the game!",36,50,300,255,0,0)
        pygame.display.update()
```

   Once the game is done the user an press the congratulations note and the game would end

7. 4 November 2017:

   Today I have updated the backgrounds for both game levels as well as the menu as it was too simple

```
background_image= pygame.image.load("level1.jpg").convert()
self.screen.blit(background_image,[0,0])
```

SOURCE CODE

```
import pygame
from pygame.locals import *
import sys
from  pygame.sprite import *
from pygame import *
pygame.init()
crash_sound = pygame.mixer.Sound("break.WAV")
gameover_sound= pygame.mixer.Sound("die.WAV")
class textrect(Sprite):
    def __init__(self, fontstyle , text , fontsize , xpos , ypos ,R, G , B ):
        Sprite.__init__(self)
        self.font= pygame.font.SysFont(fontstyle,fontsize)
        self.image= self.font.render(text, False,(R,G,B))
        self.rect = self.image.get_rect()
        self.rect.x = xpos
        self.rect.y = ypos
def winner():
    Congratulations = textrect("Arial ","Congratulations! You have won the
game!",36,50,300,255,0,0)
    screen = pygame.display.set_mode((600, 600))
    pygame.mouse.set_visible(True)

    while True :
        screen.fill((0,0,0))
        display.update()
        congrats = Group(Congratulations)
        congrats.draw(screen)
        c = event.wait()
        if Congratulations.rect.collidepoint(mouse.get_pos()):
             Congratulations = textrect("Arial ","Congratulations! You have won the
game!",36,50,300,0,255,0)
             if c.type == MOUSEBUTTONDOWN:
                 pygame.quit()
        else:
            Congratulations = textrect("Arial ","Congratulations! You have won the
game!",36,50,300,255,0,0)
        pygame.display.update()



def end():
    go = textrect("Arial ","Game Over",50,200,300,0,255,0)
    restart = textrect("Arial","Restart",50,200,200,0,0,255)
    screen = pygame.display.set_mode((600, 600))
    pygame.mouse.set_visible(True)

    while True :
        screen.fill((0,0,0))
        options = Group(go,restart)
        options.draw(screen)
        display.update()
        b = event.wait()
        if restart.rect.collidepoint(mouse.get_pos()):
            restart = textrect("Arial","Restart",50,200,200,0,0,255)
            if b.type == MOUSEBUTTONDOWN:
                level1().main()
```

```
        else:
            restart = textrect("Arial","Restart",50,200,200,255,0,0)

        if go.rect.collidepoint(mouse.get_pos()):
            go = textrect("Arial","GameOver",50,200,300,255,0,255)
            if b.type == MOUSEBUTTONDOWN:
                pygame.quit()
        else:
            go = textrect("Arial","GameOver",50,200,300,0,255,0)

            pygame.display.update()

class level1:
    #reference list
    def __init__(self):
        self.screen = pygame.display.set_mode((600, 600))

        # pygame.display.set_mode((width, height)) - This will launch a window of the
desired size
        self.blocks = []
        self.paddle = [[pygame.Rect(300, 500, 20, 10), 120],
                [pygame.Rect(320, 500, 20, 10), 100],
                [pygame.Rect(340, 500, 20, 10), 80],
                [pygame.Rect(360, 500, 20, 10), 45], ]
        self.ball = pygame.Rect(300, 500 , 5, 5)
        self.direction = -2
        self.yDirection = -1
        self.angle = 80
        self.speeds = {
            120:(-10, -3),
            100:(-10, -8),
            80:(10, -8),
            45:(10, -3),
        }
        self.swap = {
            120:45,
            45:120,
            100:80,
            80:100,
        }
        pygame.font.init()
        self.font = pygame.font.SysFont("Arial", 25)
        self.score = 0

    def createBlocks(self):
        self.blocks = []
        y = 50 # y axis of the block in the game
        for __ in range(100 // 20):
            x = 210  # x axis of the blocks in the game
            for _ in range(300 // 25 - 5):
                block = pygame.Rect(x, y, 20, 10)
                self.blocks.append(block)
                x += 30
            y += 40

    def ballUpdate(self):
        for _ in range(2):
            speed = self.speeds[self.angle]
            xMovement = True
            if _:
                self.ball.x += speed[0] * self.direction
            else:
                self.ball.y += speed[1] * self.direction * self.yDirection
```

```
                xMovement = False
            if self.ball.x <= 0 or self.ball.x >= 600: # limits where the ball can go
so it will not allow the ball to go outside of the screen
                self.angle = self.swap[self.angle]
                if self.ball.x <= 0:
                    self.ball.x = 1
                else:
                    self.ball.x = 599
            if self.ball.y <= 0:
                self.ball.y = 1
                self.yDirection *= -1

            for paddle in self.paddle:
                if paddle[0].colliderect(self.ball):
                    self.angle = paddle[1]
                    self.direction = -1
                    self.yDirection = -1
                    break
            check = self.ball.collidelist(self.blocks)
            if check != -1:
                block = self.blocks.pop(check)
                pygame.mixer.Sound.play(crash_sound)
                if xMovement:
                    self.direction *= -1
                self.yDirection *= -1
                self.score += 1
                if self.score == 35:
                    level2().main()
            if self.ball.y > 600:
                pygame.mixer.Sound.play(gameover_sound)
                end()

    def paddleUpdate(self):

        pos = pygame.mouse.get_pos()
        on = 0
        for p in self.paddle:
            p[0].x = pos[0] + 20 * on
            on += 1
    def main(self):
        pygame.mouse.set_visible(False)
        clock = pygame.time.Clock()
        self.createBlocks()
        background_image= pygame.image.load("level1.jpg").convert()
        while True:
            clock.tick(20)#as the level progresses the clock tick increases the fps
            for event in pygame.event.get():
                if event.type == QUIT:
                    sys.exit()
            self.screen.blit(background_image,[0,0])
            self.paddleUpdate()
            self.ballUpdate()

            for block in self.blocks:
                pygame.draw.rect(self.screen, (255,0,255), block)
            for paddle in self.paddle:
                pygame.draw.rect(self.screen, (255,255,255), paddle[0])
            pygame.draw.rect(self.screen, (255,255,255), self.ball)
            self.screen.blit(self.font.render(str(self.score), -1, (255,255,255)),
(300, 550))
            pygame.display.update()
class level2:
    def __init__(self):
```

```
        self.screen = pygame.display.set_mode((600, 600))
        #pygame.display.set_mode((width, height)) - This will launch a window of the
desired size
        self.blocks = []
        self.paddle = [[pygame.Rect(300, 500, 20, 10), 120],
                [pygame.Rect(320, 500, 20, 10), 100],
                [pygame.Rect(340, 500, 20, 10), 80],
                [pygame.Rect(360, 500, 20, 10), 45],]
        self.ball = pygame.Rect(300, 500 , 5, 5)
        self.direction = -2
        self.yDirection = -1
        self.angle = 80
        self.speeds = {
            120:(-10, -3),
            100:(-10, -8),
            80:(10, -8),
            45:(10, -3),
        }
        self.swap = {
            120:45,
            45:120,
            100:80,
            80:100,
        }
        pygame.font.init()
        self.font = pygame.font.SysFont("Arial", 25)
        self.score = 0

    def createBlocks(self):
        self.blocks = []
        y = 50#y axis of the block in the game
        for __ in range(200 // 20):
            x = 210  #x axis of the blocks in the game
            for _ in range(200 // 20 - 5):  #the 200 inside d bracket explains how
many blocks r there in this stage of the game
                block = pygame.Rect(x, y, 25, 10)
                self.blocks.append(block)
                x += 27
            y += 12

    def ballUpdate(self):
        for _ in range(2):
            speed = self.speeds[self.angle]
            xMovement = True
            if _:
                self.ball.x += speed[0] * self.direction
            else:
                self.ball.y += speed[1] * self.direction * self.yDirection
                xMovement = False
            if self.ball.x <= 0 or self.ball.x >= 600:
                self.angle = self.swap[self.angle]
                if self.ball.x <= 0:
                    self.ball.x = 1
                else:
                    self.ball.x = 599
            if self.ball.y <= 0:
                self.ball.y = 1
                self.yDirection *= -1

            for paddle in self.paddle:
                if paddle[0].colliderect(self.ball):
                    self.angle = paddle[1]
                    self.direction = -1
```

```
                    self.yDirection = -1
                    break
            check = self.ball.collidelist(self.blocks)
            if check != -1:
                block = self.blocks.pop(check)
                pygame.mixer.Sound.play(crash_sound)
                if xMovement:
                    self.direction *= -1
                self.yDirection *= -1
                self.score += 1
            if self.score == 50:
                winner()

            if self.ball.y > 600:
                pygame.mixer.Sound.play(gameover_sound)
                end()

    def paddleUpdate(self):

        pos = pygame.mouse.get_pos()
        on = 0
        for p in self.paddle:
            p[0].x = pos[0] + 20 * on
            on += 1
    def main(self):
        pygame.mouse.set_visible(False)
        clock = pygame.time.Clock()
        self.createBlocks()
        background_image= pygame.image.load("LEVEL2.jpg").convert()
        while True:
            clock.tick(30)
            for event in pygame.event.get():
                if event.type == QUIT:
                    sys.exit()
            self.screen.blit(background_image,[0,0])
            self.paddleUpdate()
            self.ballUpdate()

            for block in self.blocks:
                pygame.draw.rect(self.screen, (255,0,255), block)
            for paddle in self.paddle:
                pygame.draw.rect(self.screen, (255,255,255), paddle[0])
            pygame.draw.rect(self.screen, (255,255,255), self.ball)
            self.screen.blit(self.font.render(str(self.score), -1, (255,255,255)),
(400, 550))
            pygame.display.update()

def menu():
    pygame.init()
    screen= pygame.display.set_mode((320,480))
    pygame.display.set_caption('Brick Breaker')
    bg = pygame.image.load("1.JPG")
    start = textrect("Arial ","Start",30,100,130,255,255,255)
    quit = textrect("Arial","Quit",30,100,300,255,255,255)
    while True :
        screen.blit(bg,(0,0))
        text = Group(start,quit)
        text.draw(screen)
        a = event.wait()
        if start.rect.collidepoint(mouse.get_pos()):
            start = textrect("Arial","Start",30,100,130,0,0,255)
            if a.type == MOUSEBUTTONDOWN:
                level1().main()
```

```
                level2().main()

        else:
            start = textrect("Arial","Start",30,100,130,255,255,255)

        if quit.rect.collidepoint(mouse.get_pos()):
            quit = textrect("Arial","Quit",30,100,300,0,255,0)
            if a.type == MOUSEBUTTONDOWN:
               pygame.quit()
        else:
            quit = textrect("Arial","Quit",30,100,300,255,255,255)

            pygame.display.update()
menu()



if __name__ == "__main__":
    level1().main()

#reference list: GitHub. (2017). Max00355/Breakout. [online] Available at:
https://github.com/Max00355/Breakout [Accessed 6 Nov. 2017].
```