

**ARAKNOID**  
**A MINI-PROJECT REPORT**

**Submitted by**

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**In partial fulfillment of the award of the degree**

**of**

**BACHELOR OF ENGINEERING**

**IN**

**COMPUTER SCIENCE AND ENGINEERING**

**RAJALAKSHMI ENGINEERING COLLEGE , CHENNAI**



**MAY -2019**  
**ANNA UNIVERSITY**  
**CHENNAI**

## **BONAFIDE CERTIFICATE**

Certified that this project “**ARAKNOID**” is the bonafide work of “**M SARAVANAN and C SAMINATHAN**” who carried out the project work under my supervision.

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**INTERNAL EXAMINER**

**EXTERNAL EXAMINER**

## **ABSTRACT**

Arkanoid is one of the oldest block buster games which made the previous generation go crazy. Here we have recreated the modern version of it. In this, the ball initially is in touch with the bar. After the ball is released, it hits the series of rectangular blocks at the top of it and the ball returns. If the ball hits a block, that particular block gets vanished and a part of the block falls down, if the residue of the block hits the bar, the life gets reduced with the exception to the power blocks. Each time when the ball returns to the bar, the player has to move the block (only left and right) and project it to the blocks. If the player fails to move the bar where ball is coming, and leaves the ball without touching, he loses a life. For each player, initially 3 lives are given. After all the blocks are disappeared, the player completes that level. We have 5 levels and at each level, the difficulty of the game gets increased and also the player gets extra one life. There are also powers like Big ball, Long Bar, Slow ball remain hidden in random blocks. They will fall only after hitting those particular blocks. If the player catch those block while falling he will get the power for the upcoming ten seconds. The player has to complete all the Five levels to win the game.

## **ACKNOWLEDGEMENT**

We express our sincere thanks to our beloved and honorable chairman **MR. S. MEGANATHAN** and the chairperson **DR. M.THANGAM MEGANATHAN** for their timely support and encouragement.

We are greatly indebted to our respected and honorable principal **Dr. S.N. MURUGESAN** for his able support and guidance

No Words Of Gratitude Will Suffice For The Unquestioning Support Extended To Us By Our Head Of The Department **Dr.P.KUMAR M.E Ph.D.,** For Being Ever Supporting Force During Our Project Work

We also extend our sincere and hearty thanks to our internal guide **Mr.M.CHITHAMBARATHANU B.E.,M.Tech.,**for his valuable guidance and motivation during the completion of this project.

Our sincere thanks to our family members, friends and other staff members of information technology.

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# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 INTRODUCTION**

Araknoid is a arcade game which was developed in 19<sup>th</sup> century. It was a great entertainer to a large mob of all ages. For nearly 40 years it has been a unforgettable game in every ones lifetime. The main theme of the game is to hit all the blocks in the screen while balancing it with a bar without leaving it below. Will the player break all the blocks and win the game?

### **1.2 SCOPE OF THE WORK**

Araknoid is purely an entertainment game created only for the enjoyment of the people. We have recreated a new version of the classic game which has been one of the most loved game of our childhood. It is a mind relaxing game made just for fun. Without giving a second to take a look out of the screen, the game keeps the player fully into the game. The main change from the previous versions is the breaking blocks function. Each time when we hit a block, a piece of the block falls down and the player should be cautious not to touch them. Few even has powers in them. By Catching those blocks the player get some advantages like slow ball, long bar, big ball which will make his gameplay easy

### **1.3 PROBLEM STATEMENT**

We have to control the ball and direct it towards the appropriate place considering boundaries and collision conditions. We have to manage the attributes of the blocks, bar and the ball, be userfriendly and allow him to operate the game as easy as possible.

### **1.4 AIM AND OBJECTIVES OF THE PROJECT**

The aim of the project is to recreate the araknoid game with added functions and modified gameplay. We have created this game with more different levels and new functions and with a little increased difficulty level. The distinct thing in this game is its hard gameplay. One would even say that it is impossible to complete even one level. Difficulty keeps accreting at each second.

## **CHAPTER 2**

### **SYSTEM SPECIFICATIONS**

#### **2.1      HARDWARE SPECIFICATIONS**

Processor	:	Pentium IV Or Higher
Memory Size	:	256 GB (Minimum)
HDD	:	40 GB (Minimum)

#### **2.2      SOFTWARE SPECIFICATIONS**

Operating System	:	WINDOWS XP or Higher
Front – End	:	python
Back - End	:	Microsoft access
Language	:	python



## **CHAPTER 3**

### **MODULE DESCRIPTION**

#### **I. Pygame:**

Pygame is a cross-platform set of Python modules designed for writing video games. It includes computer graphics and sound libraries designed to be used with the Python programming language. Pygame is primarily used to create games using python platform. Using pygame only the whole game is created . Pygame is not a built in module. It is necessary to install it before running this game. Pygame adds functionality on top of the excellent SDL library. This allows you to create fully featured games and multimedia programs in the python language. Pygame is highly portable and runs on nearly every platform and operating system. Pygame itself has been downloaded millions of times.

#### **II. Stack:**

Stack is a user defined module created to use attributes of ball and bar such as speed length and radius. The stack module consists of a stack which contains the above listed attributes. We retrieve and use these attributes in the specified levels. At each level we pop up the attributes and use them to create the images. The stack module consist of attributes of all the objects used in the game for all the levels

### **III. Time:**

Time is a inbuilt module in python. This module provides a number of functions to deal with dates and the time. The sleep function from the time module is used in the game for a small pause at appropriate places. Python time module provides the ability to read, represent, and reset the time information in many ways.

#### **Some of the useful time functions in Python:**

- **time.time()**
- **time.clock()**
- **time.ctime()**
- **time.sleep()**
- **time.struct\_time class**
- **time.strftime()**

### **IV. Random:**

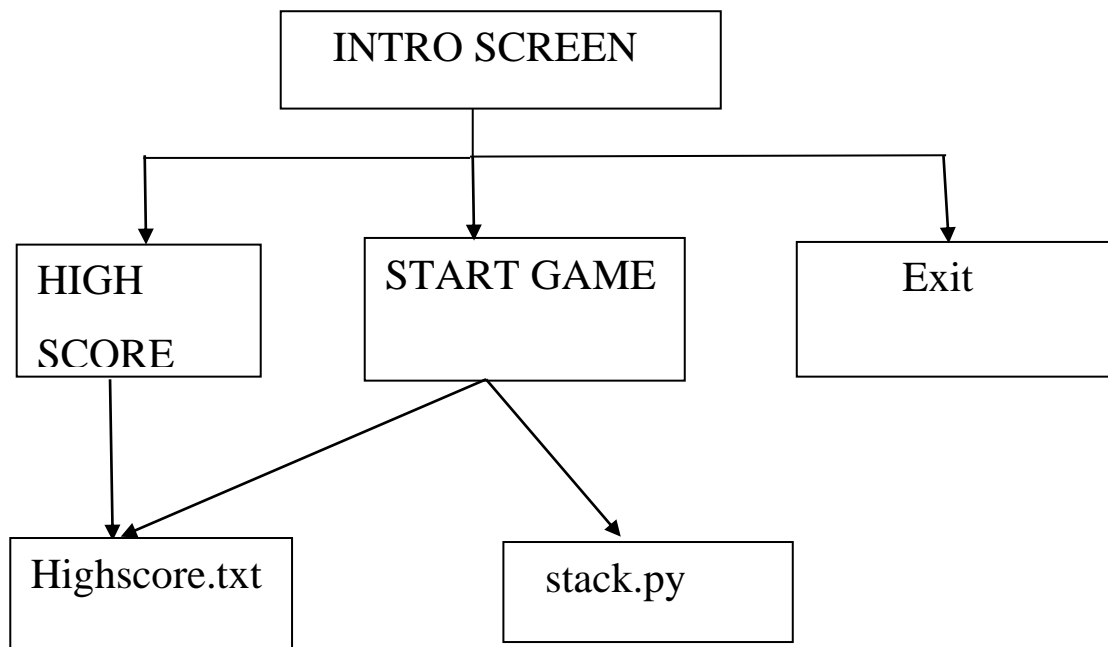
Random is a inbuilt module in python. It is used to generate random numbers. Random module implements a pseudo-random number generator, and contains methods that let us directly solve many different programming issues where randomness comes into play.

Here it used for randomly allocating colors for the blocks and hiding random powers in random blocks .

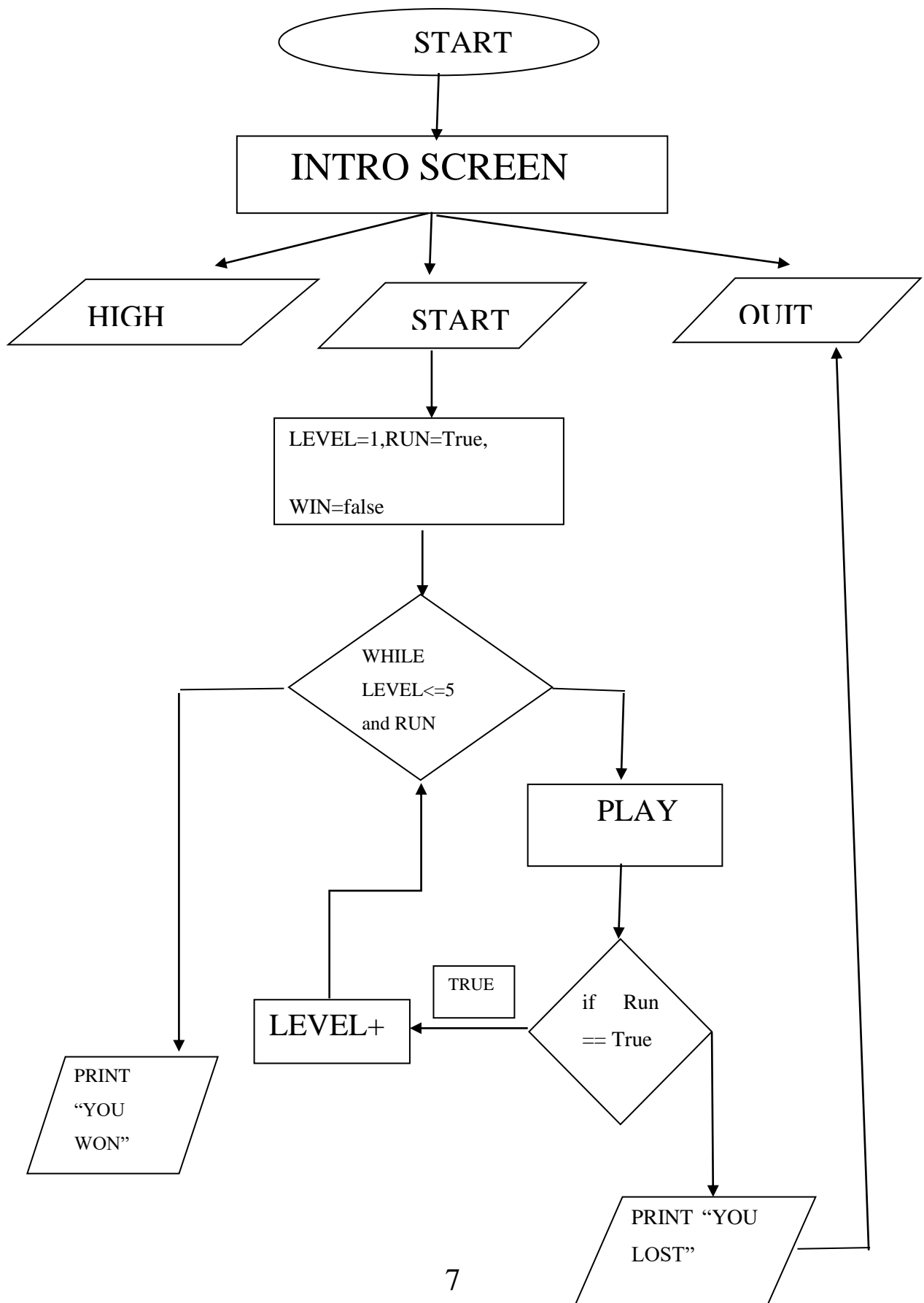
## CHAPTER 4

### SYSTEM DESIGN

#### 4.1 ARCHITECTURE DIAGRAM



## 4.2 FLOW CHART



## CHAPTER 5

### SAMPLE CODING

```
import pygame
from pygame.locals import *
from stack import *
import time
import random
#COLORS
BLACK=[0,0,0]
WHITE=[255,255,255]
GREY=[128,128,128]
RED=[255,0,0]
SILVER=[192,192,192]
PINK=(255,20,147)
YELLOW=(255,255,0)
BLUE=(0,255,255)
GREEN=(0,255,0)
VIOLET=( 108, 52, 131 )
ORANGE=(255, 117, 26)
GREEN2= [ 0,255,127]
PINK2=[144, 12, 63]
def reset():
#stack
```

```

global
s,emptystr,highscore,show_score,launched,Start,win,speedvar,change_s
peed,changespeedinterval,bar,lostlife

global
total_score,Level_Score,block_list,all_sprites_list,player_sprite,sprited_
block_rect,iron_block_list,hs,level,run

global
counterval0,counterval1,counterval2,counter0,counter1,counter2

counter0=False
counter1=False
counter2=False


counterval0=counterval1=counterval2=0
s=Stack()


emptystr=str()
highscore=int()
show_score=bool()
launched=bool()
Start=bool()
win=bool()
speedvar=int()      #speedchange for each changespeedinterval
change_speed=bool()    # whether the speed change at the instant
changespeedinterval=int()  # for no.of.Level_Score increase, the
speed will increase

bar=0
lostlife=0
total_score=0    # total Level_Score

```

```

Level_Score=0          # Level_Score of each level
    #Group
block_list=pygame.sprite.Group()
all_sprites_list=pygame.sprite.Group()
player_sprite=pygame.sprite.Group()

#List
sprited_block_rect=list()
iron_block_list=list()
power_block_list=list()
hs=0
with open("HighScore.txt",'r') as f:
    hs=f.read()
clock=pygame.time.Clock()
level=1
run=True
# self.life=3
class Block(pygame.sprite.Sprite):
    def __init__(self,color,w,h):
        super().__init__()
        self.color=color
        self.image=pygame.Surface([w,h])
        self.image.fill(self.color)
        self.rect=self.image.get_rect()
        self.health= 200 if color == [128,128,128] else 100

    def update(self):
        self.rect.y+=10

```

```

class Bar(pygame.sprite.Sprite):
    def __init__(self,color,w,h):
        super().__init__()
        self.length=w
        self.height=h
        self.color=color
        self.image=pygame.Surface([self.length,self.height])
        self.image.fill(self.color)
        self.rect=self.image.get_rect()
        self.rect.x= screen_width//2
        self.rect.y= screen_height - (self.height-1)    # (h is the bar's
length)

```

```

class Ball(pygame.sprite.Sprite):
    def __init__(self,color,radius,speed,speedvar):
        global lostlife
        super().__init__()
        self.color=color
        self.radius=radius
        self.x_speed=self.y_speed=speed
        self.speedvar=speedvar
        self.life=3-lostlife

```

```

self.image=pygame.Surface([self.radius,self.radius],pygame.SRCALPH

```

A) #SCRALPHA for TRANSOARENCY

```

    self.image.fill(BLUE)
    self.image.set_colorkey(WHITE)
    self.rect=self.image.get_rect()
    pygame.draw.ellipse(self.image,self.color,self.rect)

```



```

def update(self):
    global Start
    global changespeedinterval
    global changespeed
    global win
    global launched
    global bar
    global lostlife
    global fall_list
    global counterval0,counterval1,counterval2
    global counter0,counter1,counter2
    global ball
    global specialcondition
    index=0
    if self.rect.x+self.radius > screen_width or self.rect.x < 0 :
        self.x_speed*=-1
    #index=self.rect.collidelistall(all_block_rect)
    hit=True if len(sprited_block_rect) >0 else False
    # hit become True if the ball collides with any blocks
    if hit :
        self.rect.y+=10
        self.y_speed*=-1
    if self.rect.y< 0 or self.rect.colliderect(bar.rect) :
        self.y_speed*=-1
        if bar.rect.x<= self.rect.x <= bar.rect.x + bar.length//3 :
            if self.x_speed > 0 :
                self.x_speed*=-1

```

```

        elif bar.rect.x+bar.length//2 <= self.rect.x <= bar.rect.x +
bar.length :
            if self.x_speed < 0 :
                self.x_speed*=-1
    if self.rect.y> screen_height and self.life >0.5 and launched :
        self.life-=1
        lostlife+=1
        time.sleep(0.5)
        self.rect.x=bar.rect.x+30
        self.rect.y=bar.rect.y-30
        launched=False
    if self.rect.y+self.radius > screen_height and self.life <=1:
        Start=False
        win=False

    for block in fall_list:
        if block.rect.y<screen_height:
            block.update()
        if block.rect.y>screen_height:
            fall_list.remove(block)
        if block.rect.colliderect(bar.rect):
            for block in fall_list:
                block.rect.y+=screen_height
            fall_list.clear()
        if block.color==PINK2:
            counter1=True
            colorb=bar.color

```

```

heightb=bar.height
lengthb=bar.length
xpot=bar.rect.x
ypot=bar.rect.y
all_sprites_list.remove(bar)
bar=Bar(PINK2,lengthb+18,20)
all_sprites_list.add(bar)
bar.rect.x=xpot
bar.rect.y=ypot
specialcondition=True
break
elif block.color==BLACK: #slow ball
    counter2=True
    self.x_speed*=0.5
    self.y_speed*=0.5
    break
elif block.color==WHITE:
    counter0=True

    rad=self.radius
    speed=self.x_speed
    speedv=self.speedvar
    xpo=self.rect.x
    ypo=self.rect.y
    all_sprites_list.remove(ball)
    player_sprite.remove(ball)
    ball=Ball(GREEN,rad+30,speed,speedv)
    ball.rect.x=xpo

```

```

        ball.rect.y=ypo
        all_sprites_list.add(ball)
        player_sprite.add(ball)
        self.update()
        self.radius+=30
        break
    if self.life > 0.5:
        self.life-=0.25
        lostlife+=0.25
        self.rect.x=bar.rect.x+30
        self.rect.y=bar.rect.y-30
        launched=False
    else:
        Start=False
        win=False
        break
if counter0 or counter1 or counter2:
    if counterval0>=1000:#reverse condition
        counterval0=0
        counter0=False
        rad=self.radius
        speed=self.x_speed
        speedv=self.speedvar
        xpo=self.rect.x
        ypo=self.rect.y
        all_sprites_list.remove(ball)
        player_sprite.remove(ball)
        ball=Ball(GREEN,rad-30,speed,speedv)

```

```

    ball.rect.x=xpo
    ball.rect.y=ypo
    all_sprites_list.add(ball)
    player_sprite.add(ball)
    self.radius-=30
    self.update()
elif counterval1>=1000:
    counter1=False
    counterval1=0
    xpot=bar.rect.x
    ypot=bar.rect.y
    all_sprites_list.remove(bar)
    bar=Bar(SILVER,bar_length,20)
    all_sprites_list.add(bar)
    bar.rect.x=xpot
    bar.rect.y=ypot
    specialcondition=False
elif counterval2>=1000:
    counterval2=0
    counter2=False
    self.x_speed*=2
    self.y_speed*=2
    if len(block_list) <= 0 :    #when all the blocks are demolished,
finish the level
    Start=False
    win=True

```

```

    if Level_Score == changespeedinterval :      #for every
changespeedinterval value increment the speed of the ball
        changespeed=True

```

```

    if Level_Score%10== 0 and Level_Score>=10 and changespeed:
#Level_Score>=10 is not to increment the speed for values less than
zero since mod 10 of every value below 11 is 0

```

```

        self.x_speed*=self.speedvar

```

```

        self.y_speed*=self.speedvar

```

```

        changespeed=False

```

```

        changespeedinterval+=10

```

```

    # finally increment x and y speed

```

```

    self.rect.x+=self.x_speed

```

```

    self.rect.y-=self.y_speed

```

```

hs=0

```

```

with open("HighScore.txt",'r') as f:

```

```

    hs=f.read()

```

```

def introscreen():

```

```

    global hs

```

```

    global Start

```

```

    global emptystr

```

```

    global show_score

```

```

    global level

```

```

titlefont=pygame.font.SysFont("Comic sans MS",48)

```

```

font=pygame.font.SysFont(None,48)

```

```

title=titlefont.render("Araknoid",True,BLACK,GREEN)

```

```

title_rect=title.get_rect()

```

```

play_text=font.render("Play",True,BLACK,GREEN)
play_rect=play_text.get_rect()
quit_text=font.render("Quit",True,BLACK,GREEN)
quit_rect=quit_text.get_rect()
high_score=font.render("High Score",True,BLACK,GREEN)
high_score_rect=high_score.get_rect()
show_hscore=font.render(emptystr,True,BLACK)
show_hscore_rect=show_hscore.get_rect()
title_rect.center=screen.get_rect().center
title_rect.centery=screen.get_rect().centery - 130
play_rect.center=screen.get_rect().center
quit_rect.centerx=screen.get_rect().centerx
quit_rect.centery=screen.get_rect().centery +60
high_score_rect.centerx=screen.get_rect().centerx
high_score_rect.centery=screen.get_rect().centery +120
show_hscore_rect.centerx=screen.get_rect().centerx
show_hscore_rect.centery=screen.get_rect().centery +200
screen.blit(title,title_rect)
screen.blit(play_text,play_rect)
screen.blit(quit_text,quit_rect)
screen.blit(high_score,high_score_rect)
screen.blit(show_hscore,show_hscore_rect)
for event in pygame.event.get():
    mpos=pygame.mouse.get_pos()
    if event.type == pygame.QUIT:
        pygame.quit()
        quit()

```

```

        elif event.type==pygame.MOUSEBUTTONDOWN and
event.button == 1:
    if play_rect.collidepoint(mpos) :
        Start=True
        break
    elif quit_rect.collidepoint(mpos):
        pygame.quit()
        quit()
    # setting highscore button as ON AND OFF switch

    elif high_score_rect.collidepoint(mpos) and not show_score :
        emptystr=str(hs)
        show_score=True
    elif high_score_rect.collidepoint(mpos) and show_score :
        emptystr=str()
        show_score=False
def Start_Game(iron):
    # iron arguments says number of iron block rows
    pygame.mouse.set_visible(False)
    posy=0
    colourlist=[RED,SILVER,PINK,YELLOW,VIOLET,GREEN2]
    power_block_list=[]
    powlist=['bigball','longbar','slowball']
    for i in range(5):
        posx=0
        for j in range(10):
            color= GREY if i==0 else colourlist[random.randint(0,5)]

```



```

    block=Block(color,47,25)
    block.rect.x=posx
    block.rect.y=posy
    #screen.blit(block.image,block.rect)
    block_list.add(block)
    all_sprites_list.add(block)
    if i ==0:
        iron_block_list.append(block)
    #all_block_rect.append(block.rect)
    rand= random.randint(0,7)
    if (rand <3) and i!=0 :
        power_block_list.append(block)
        if rand==0:
            block.color=WHITE #for larger ball
        elif rand==1:
            block.color=PINK2 #for longer bar
        elif rand==2:
            block.color=BLACK #for slower ball
        posx+=50
    posy+=28

    all_sprites_list.add(bar)
def GameOver(message,Escape):
    global highscore
    global total_score
    if Escape:
        score=total_score
    else:

```

```

    score=higscore
    basicfont=pygame.font.SysFont('Comic Sans MS',46)
    scorefont=pygame.font.SysFont(None,50)
    text=basicfont.render(message,True,WHITE,BLUE) #
render(text,anti-aliasing,color,background)
    textrect=text.get_rect()
    textrect.centerx=screen.get_rect().centerx
    textrect.centery=screen.get_rect().centery-50
    show_score=scorefont.render(str(score),True,RED,GREEN)
    score_rect=show_score.get_rect()
    score_rect.centerx=screen.get_rect().centerx
    score_rect.centery=screen.get_rect().centery
    intro=scorefont.render("Press      Enter      to      Play
Again",True,BLACK,BLUE)
    introrect=intro.get_rect()
    introrect.centerx=screen.get_rect().centerx
    introrect.centery=screen.get_rect().centery+60
    screen.blit(text,textrect)
    screen.blit(show_score,score_rect)
    screen.blit(intro,introrect)
    for event in pygame.event.get():
        if event.type == pygame.KEYDOWN and event.key ==
pygame.K_RETURN :
            return True
def showscore(ball):
    font=pygame.font.SysFont(None,40)
    levelfont=font.render("LEVEL "+str(level),True,BLACK,BLUE)
    lifefont=font.render("LIFE:"+str(ball.life),True,BLACK,BLUE)

```

```

scorefont=font.render("SCORE:"+str(total_score),True,BLACK,BLUE)

level_rect=levelfont.get_rect()
life_rect=lifefont.get_rect()
score_rect=scorefont.get_rect()

level_rect.centerx=screen.get_rect().centerx
level_rect.centery=screen.get_rect().centery
score_rect.centerx=screen.get_rect().centerx+70
score_rect.centery=screen.get_rect().centery+40
life_rect.centerx=screen.get_rect().centerx-60
life_rect.centery=screen.get_rect().centery+40

screen.blit(levelfont,level_rect)
screen.blit(scorefont,score_rect)
screen.blit(lifefont,life_rect)

```

```

pygame.init()
screen_width=500
screen_height=500
screen=pygame.display.set_mode([screen_width,screen_height])
pygame.display.set_caption("ARAKNOID")
clock=pygame.time.Clock()
level=1
run=True
fall_list=[]
#is_falling=bool()
#fall_img=pygame.Surface([30,30])
#fall_img.fill(RED)

```

```

#fall_rect=fall_img.get_rect()

def NextStage(speedVar,bar_len,ball_rad,ball_speed):
    global emptystr
    global hs # high score to be stored in file
    global highscore
    global show_score
    global Start
    global win
    global change_speed
    global changespeedinterval
    global speedvar
    global bar
    global Level_Score
    global total_score
    global level
    global run
    global launched
    global fall_list
    global counterval0,counter0
    global counterval1,counter1
    global counterval2,counter2
    global ball
    global specialcondition
    bar_length=bar_len
    global bar_length
    specialcondition=False
    # global fall_rect

```

```

speedvar=speedVar
#bar
bar=Bar(SILVER,bar_len,20)
emptystr=str()
show_score=False
Start=False if level==1 else True
win=False

#execute at the beginning level only
while not Start and level==1:
    for event in pygame.event.get():
        if event.type == pygame.QUIT :
            pygame.quit()
            exit()
            break
        screen.fill(BLUE)
        introscreen()
        pygame.display.flip()
    block_hit_list=[]
    ball=Ball(GREEN,ball_rad,ball_speed,speedvar)
    ball.rect.x=screen_width//2 + 20
    ball.rect.y=screen_height-45
    all_sprites_list.add(ball)
    player_sprite.add(ball)

#creating blocks

Start_Game(level):

```

```

launched=False
while Start:
    for event in pygame.event.get():
        if event.type == pygame.QUIT:
            pygame.quit()
        if event.type==pygame.KEYDOWN and
event.key==pygame.K_SPACE and not launched :
            player_sprite.update()
            launched=True
        #for quitting in middle of the running game
        if event.type == pygame.KEYDOWN and event.key ==
pygame.K_ESCAPE:
            run=False
            changeHighscore(total_score,hs)
            while True:
                screen.fill(BLUE)
                pygame.mouse.set_visible(True)
                if GameOver("You Escaped , Coward !!",True):
                    return
                pygame.display.update()
            if counter0:
                if counterval0<=1000: counterval0+=1
            elif counter1:
                if counterval1<=1000: counterval1+=1
            elif counter2:
                if counterval2<=1000: counterval2+=1
            keys=pygame.key.get_pressed()
            if keys[pygame.K_LEFT] and bar.rect.x>0 :

```

```

        if not launched :
            ball.rect.x-=6 # to move the ball with respect to bar
when it is not launched yet
            bar.rect.x-=7
        if keys[pygame.K_RIGHT] and bar.rect.x<screen_width-
bar.length:
            if not launched :
                ball.rect.x+=6
                bar.rect.x+=7
            screen.fill(BLUE)
            remove=bool()
            iron=[block.rect for block in iron_block_list]
            if ball.rect.collidelist(iron)+1 : # the
rect1.collidelist(rect2list) will return the index of the total rectangles of
rect2list that collide with rect1
                for block in iron_block_list:
                    if ball.rect.colliderect(block.rect):
                        remove=False
                        block.image.fill(RED)
                        iron_block_list.remove(block)
                        block.color=RED
                        break
            '''for block in power_block_list:
                if ball.rect.colliderect(block.rect):
                    remove=False
                    block.image.fill(RED)
                    power_block_list.remove(block)
                    block.color=PINK2'''

```

```
else:  
    remove=True
```

```
block_hit_list=pygame.sprite.spritecollide(ball,block_list,remove)
```

```
for block in block_hit_list:  
    if block.color !=GREY and len(fall_list)<3:  
        block.rect.width-=35  
        block.rect.height-=5  
        fall_list.append(block)  
    if specialcondition==True: block.color=PINK2  
    sprited_block_rect.append(block.rect)  
    total_score+=1  
    Level_Score+=1
```

```
if launched:  
    player_sprite.update()  
    sprited_block_rect.clear()  
all_sprites_list.draw(screen)  
player_sprite.draw(screen)
```

```
for block in fall_list:  
    pygame.draw.rect(screen,block.color,block.rect)  
showscore(ball)  
clock.tick(60)  
pygame.display.flip()
```

```
while not Start :  
    ball.image.fill(BLUE)  
    bar.image.fill(BLUE)
```



```

player_sprite.remove(ball) # del ball
pygame.mouse.set_visible(True)
screen.fill(BLUE)
for event in pygame.event.get():
    if event.type == pygame.QUIT:
        pygame.quit()
highscore=total_score
if win:
    if gotonextlevel():
        break
else:
    run=False
    changeHighscore(highscore,hs)
    if GameOver('GAME OVER',False):
        return
    pygame.display.flip()
    Level_Score=0
#NextStage(ch_s,ch_in,bar_len,ball_rad,ball_speed)
def gotonextlevel():
    global level
    if level != 5:
        font=pygame.font.SysFont(None,28)
        nextlev=font.render("Press          ENTER          to
continue",True,BLACK,GREEN)
        nextlev_rect=nextlev.get_rect()
        nextlev_rect.center=screen.get_rect().center
        for event in pygame.event.get():

```

```

        if event.type == pygame.KEYDOWN and event.key ==
pygame.K_RETURN :
            level+=1
            return True

    screen.blit(nextlev,nextlev_rect)
    pygame.display.update()
else:
    font=pygame.font.SysFont(None,28)
    nextlev=font.render("You          Won\n          Score
:"+str(total_score),True,BLACK,GREEN)
    nextlev_rect=nextlev.get_rect()
    nextlev_rect.center=screen.get_rect().center
    screen.blit(nextlev,nextlev_rect)
    return

```

```

def changeHighscore(highscore,hs):
    if highscore>int(hs):
        with open("HighScore.txt",'w') as f:
            f.write(str(highscore))

```

```

reset()
def Next():
    global run,level,lostlife,s
    while run and not s.isEmpty() :
        arg=s.pop()
        if level>1:
            lostlife-=1
        NextStage(arg[0],arg[1],arg[2],arg[3])

```

```
while True:
```

```
    if run :
```

```
        Next()
```

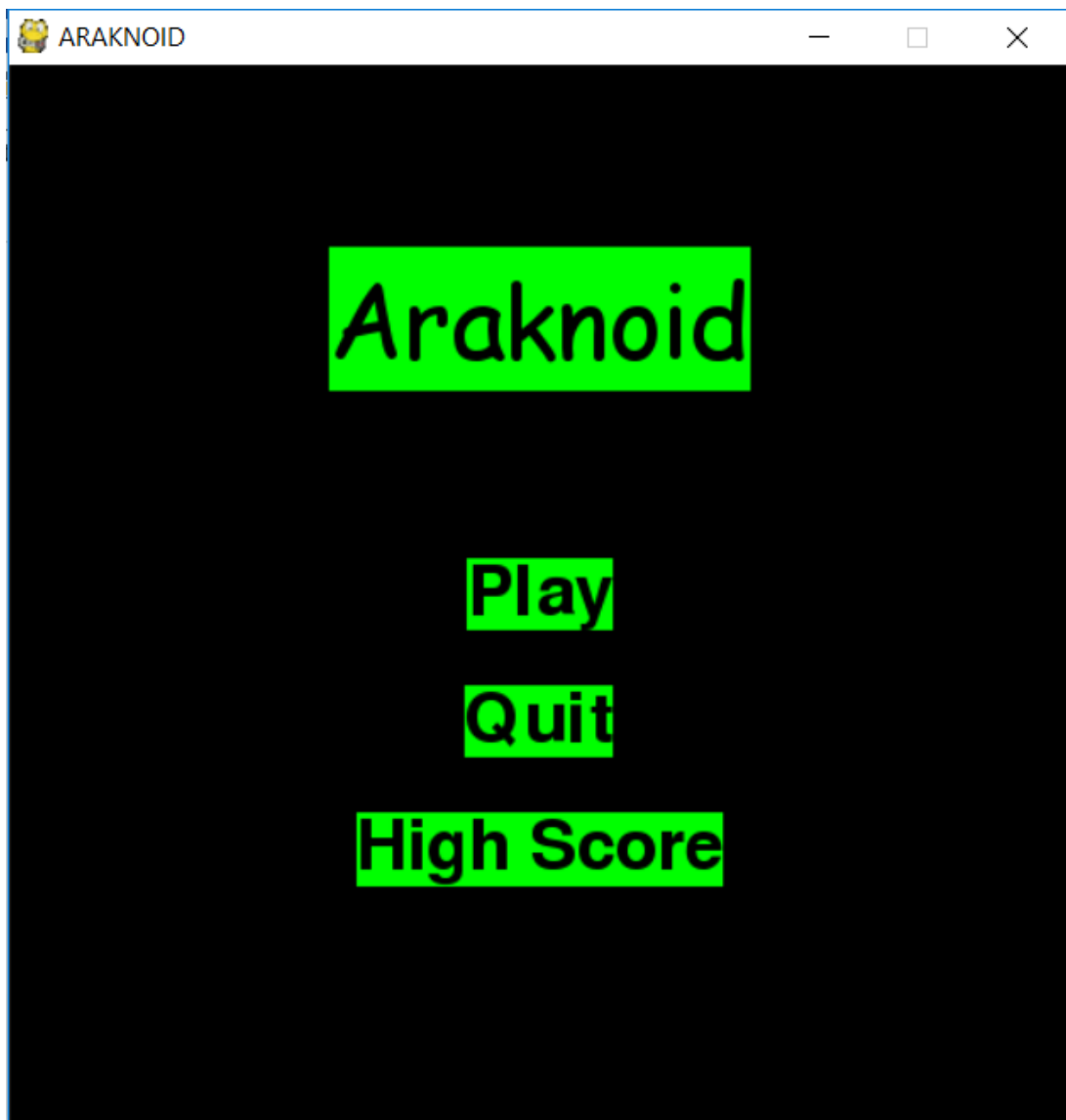
```
    else:
```

```
        reset()
```

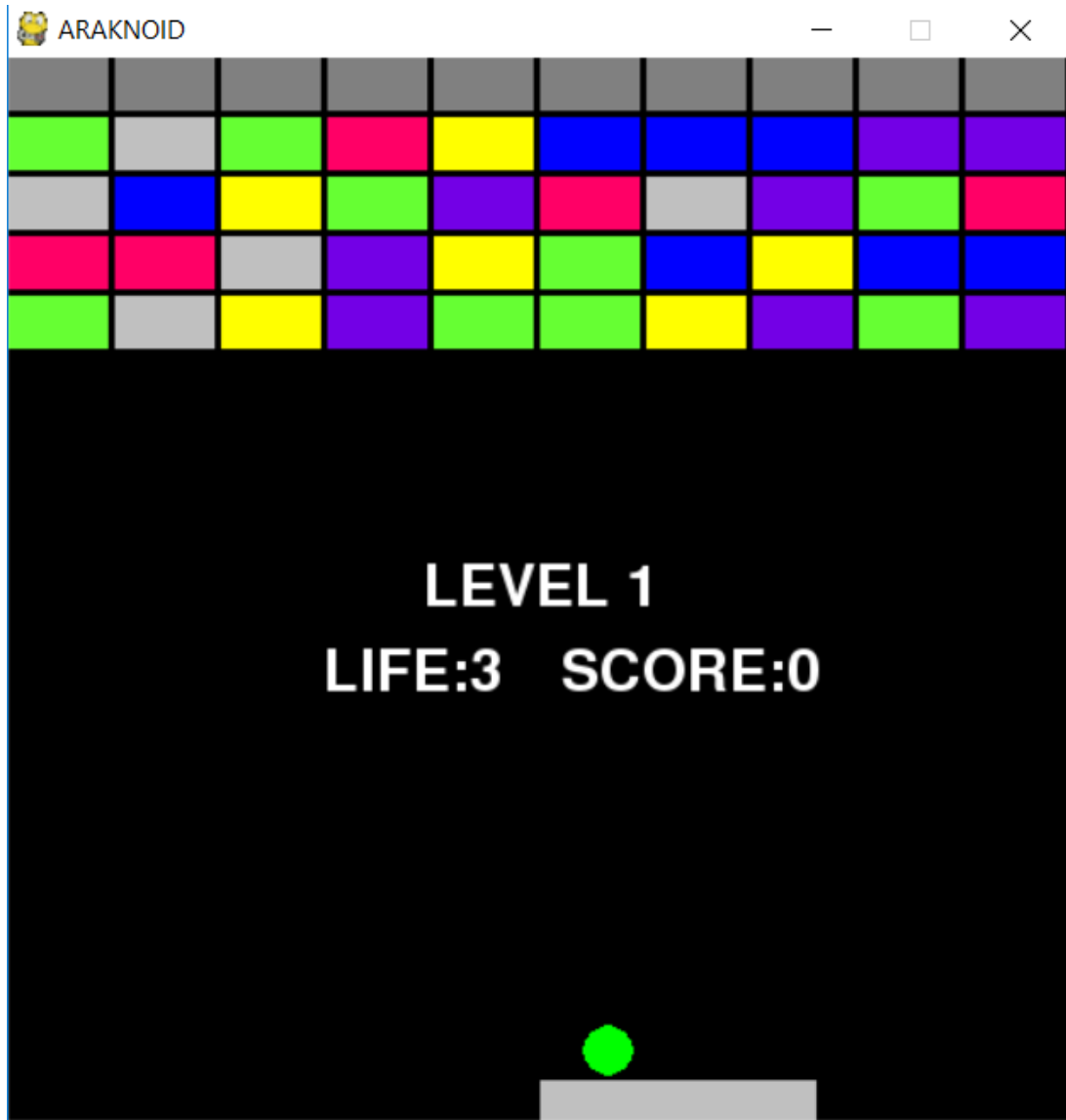
## CHAPTER 6

### SCREEN SHOTS

#### INTRO SCREEN



Game Starts




## Big Ball Power



S



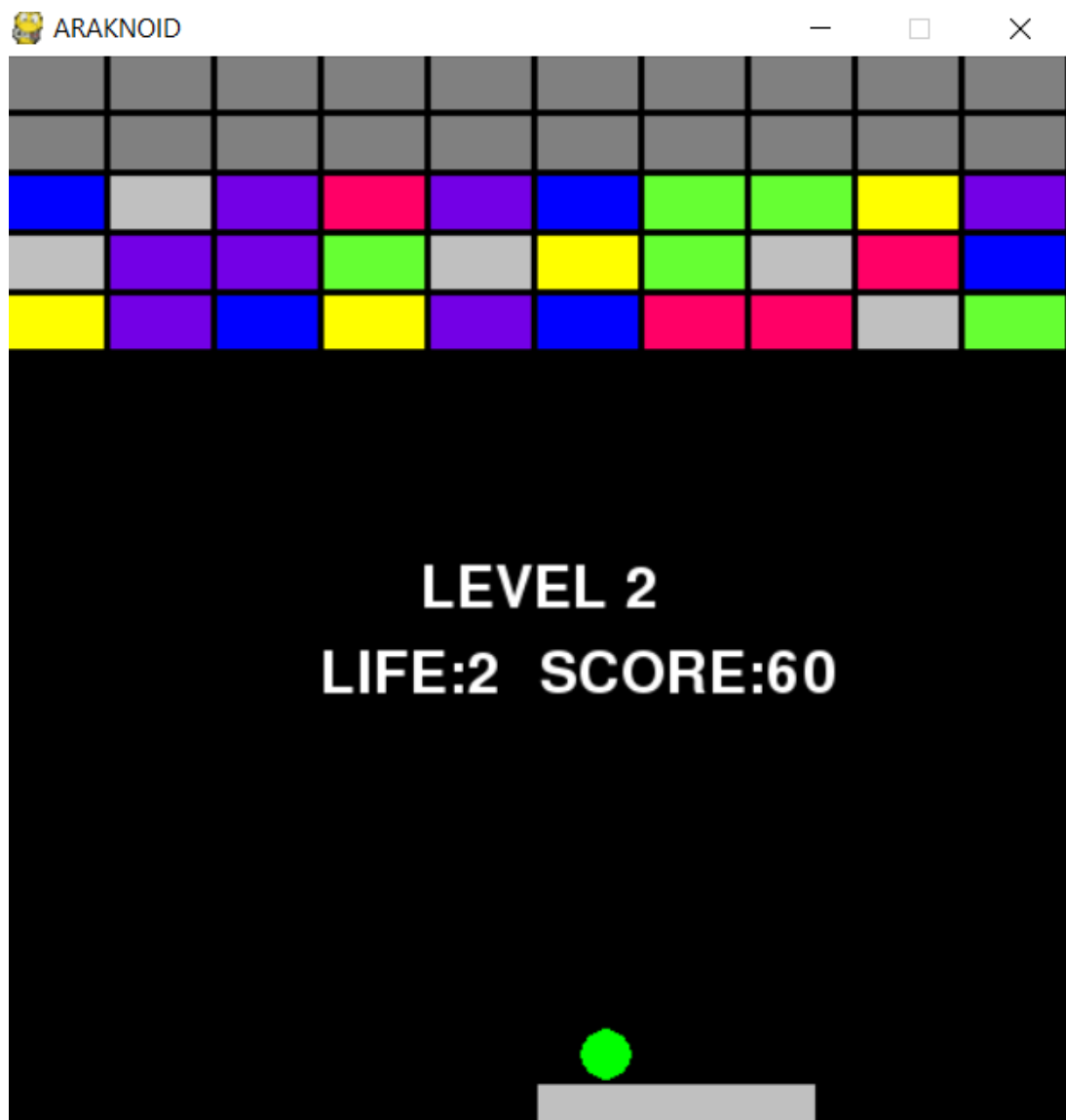
NEXT LEVEL

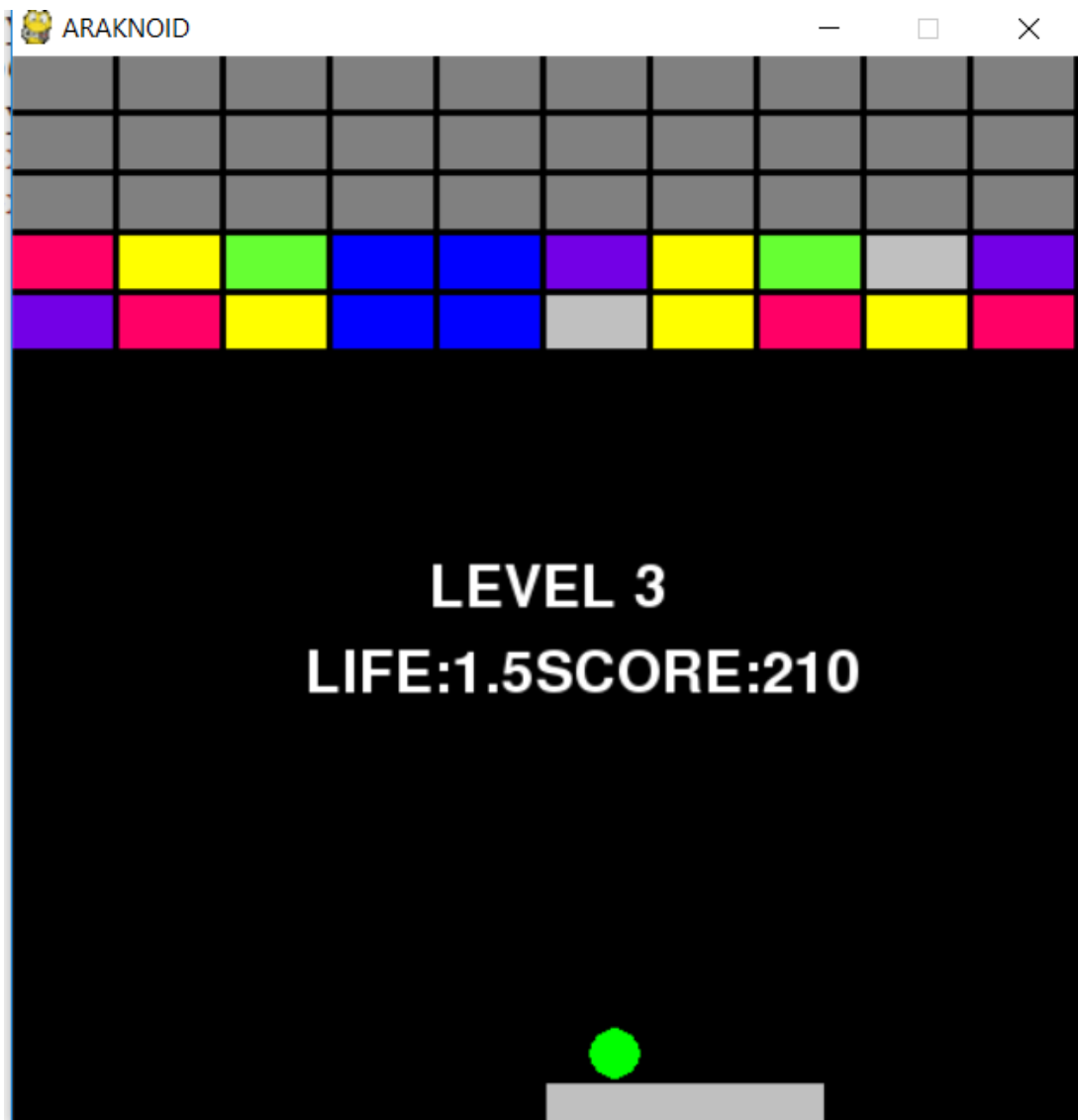
 ARAKNOID

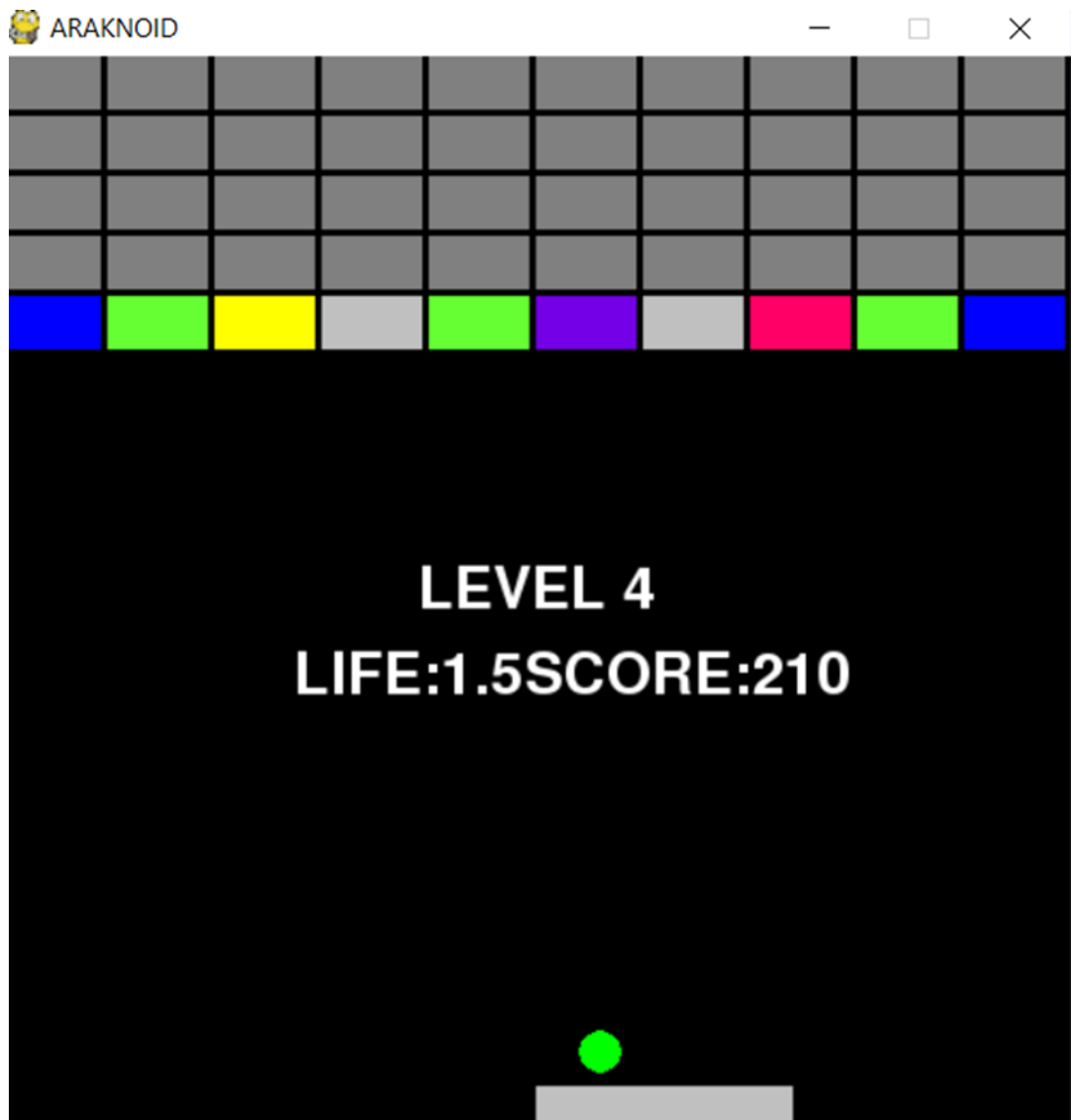


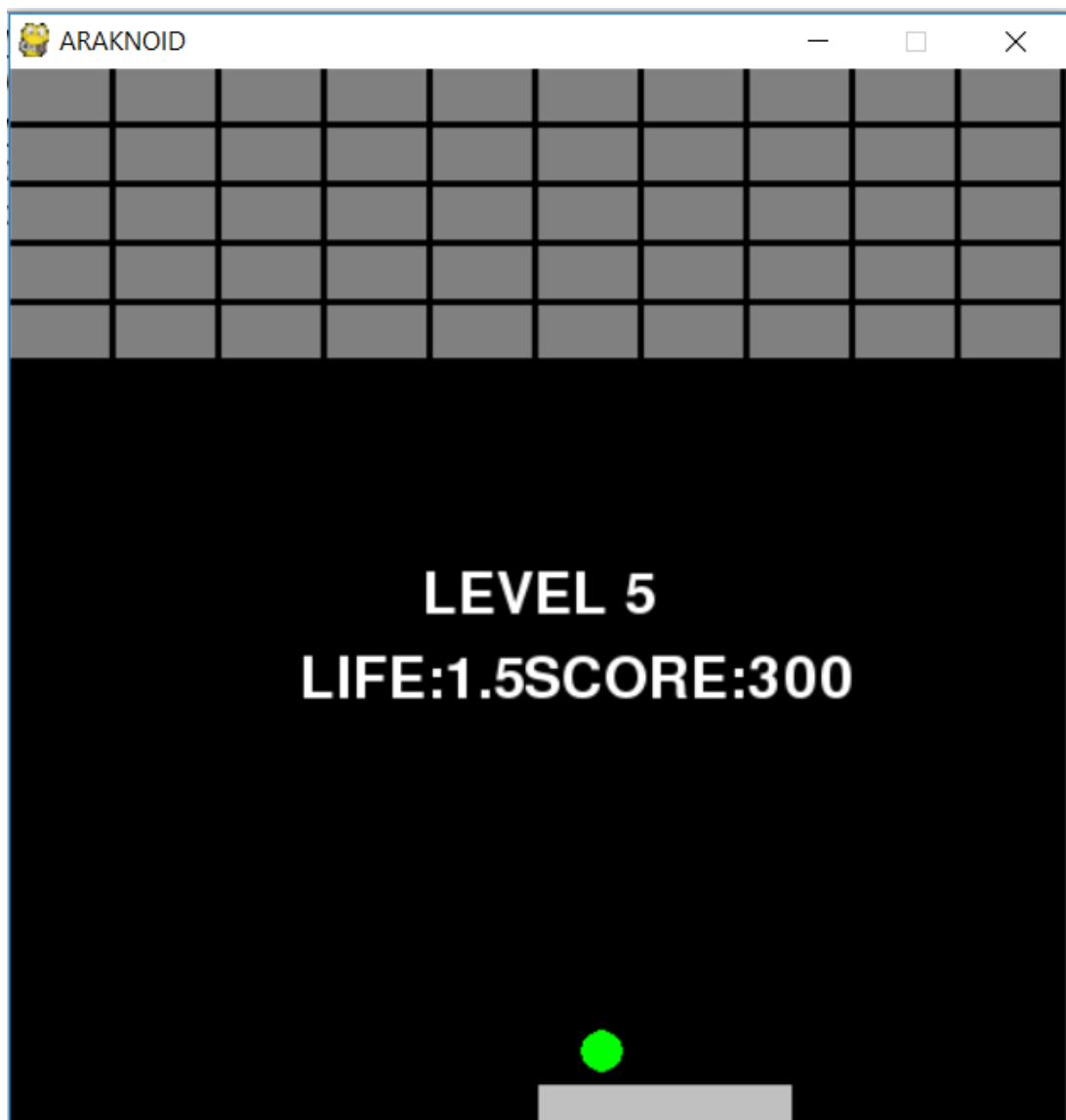
**Press ENTER to continue**

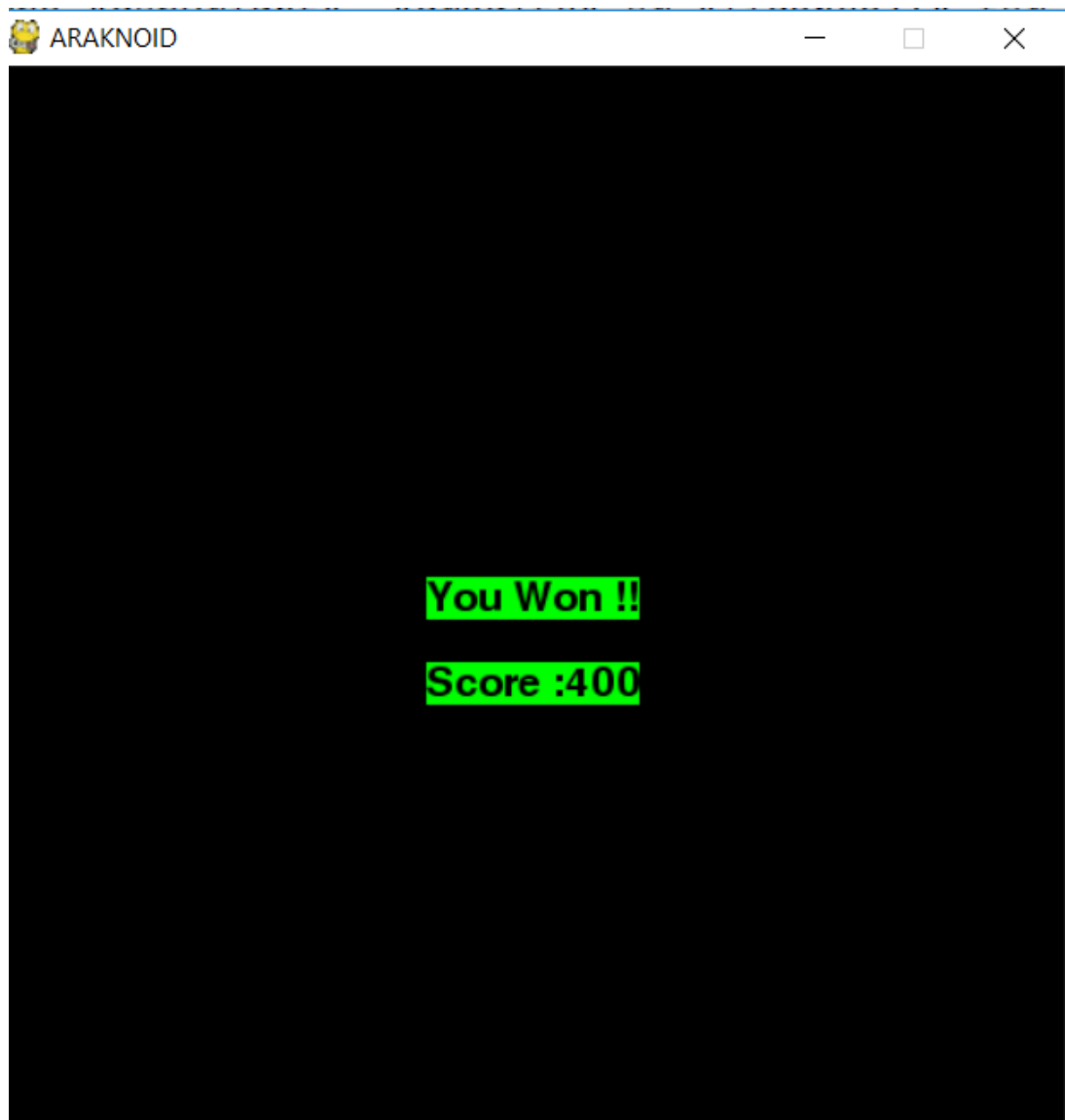












## **CHAPTER 7**

### **CONCLUSION AND FUTURE ENHANCEMENT**

We made this game with only limited functions and levels. In future we can upgrade the gameplay in a more user friendly manner. We will also make this game in 3 dimensional format as here we have did this game only with 2 dimensional manner. In future we are willing to make more powers and different arrangement of blocks in more colourfull way. We are also willing to add more user customizing attributes like selecting the colour of the ball and bar.

## REFERENCE

1. <https://stackoverflow.com>
2. <https://programarcadegames.com>
3. <http://pygametutorials.wikidot.com>
4. <https://pygame.org>
5. <https://www.edureka.co/blog/pygame-tutorial>
6. <https://nerdparadise.com/programming/pygame/>