|  |  |  |
| --- | --- | --- |
| Taylor Sloan | CSCI 251, Bob Robertson | MWF 2:00-3:30 |
|  |  |  |

1. While loops
   1. Graphical user interface, application, Word

      Description automatically generated
   2. Graphical user interface, application, Word

      Description automatically generated
2. Graphical user interface, text, application, Word

   Description automatically generated
3. Graphical user interface, text, application

   Description automatically generated
4. Graphical user interface, text, application

   Description automatically generated

CHALLENGE PROBLEMS

1. Text, application

   Description automatically generated with medium confidence
2. Graphical user interface, text, application

   Description automatically generated
3. I just decided to put my code here because it is a lot.

from graphics import \*

import time

w=GraphWin("MASTERMIND", 1000, 512)

def createcode():

string = "GBRYPO"

import random

code = ""

for i in range(0,4):

code += string[random.randint(0,len(string)-1)]

return code

def comparestrings(guess, code):

counter = 0

if (len(guess)==len(code)):

for i in range(0, len(guess)):

if (guess[i] == code[i]):

counter += 1

else:

counter = -1

return counter

def drawBoard():

boardClear = Rectangle(Point(0,0), Point(1000, 512))

boardClear.draw(w)

boardClear.setFill("white")

boardClear.setOutline("white")

header = Rectangle(Point(0,0), Point(500, 32))

header.draw(w)

header.setFill("gray")

header.setOutline("gray")

splitter = Line(Point(500,0), Point(500, 512))

splitter.draw(w)

splitter.setFill("black")

splitter.setOutline("black")

div1 = Line(Point(100,0), Point(100,512))

div1.draw(w)

div2 = Line(Point(400,0), Point(400,512))

div2.draw(w)

for i in range(32,500, 40):

div3 = Line(Point(0,i), Point(500,i))

div3.draw(w)

colorList = ["green", "blue", "red", "yellow", "purple", "orange"]

colorCount = 0

for i in range(522, 950, 76):

colorSquare = Rectangle(Point(i,414), Point(i+76, 490))

colorSquare.draw(w)

colorSquare.setFill(colorList[colorCount])

colorSquare.setOutline("black")

colorCount += 1

guessText = Text(Point(50, 16), "Guess")

guessText.draw(w)

guessText = Text(Point(250, 16), "Colors")

guessText.draw(w)

guessText = Text(Point(450, 16), "Correct")

guessText.draw(w)

guessNumber = 1

for i in range(52, 512, 40):

guessText = Text(Point(50, i), guessNumber)

guessText.draw(w)

guessNumber += 1

for i in range(560, 900, 95):

colorSquare = Rectangle(Point(i,22), Point(i+95, 370))

colorSquare.draw(w)

def sidebarFill(guess, tracker, correctNum):

for i in range(0, 4):

if (guess[i] == "G"):

colorBlock = Rectangle(Point(100 + (i \* 75), 32 + (tracker\*40)), Point(175 + (i \* 75), 72 + (tracker\*40)))

colorBlock.draw(w)

colorBlock.setFill("green")

if (guess[i] == "B"):

colorBlock = Rectangle(Point(100 + (i \* 75), 32 + (tracker\*40)), Point(175 + (i \* 75), 72 + (tracker\*40)))

colorBlock.draw(w)

colorBlock.setFill("blue")

if (guess[i] == "R"):

colorBlock = Rectangle(Point(100 + (i \* 75), 32 + (tracker\*40)), Point(175 + (i \* 75), 72 + (tracker\*40)))

colorBlock.draw(w)

colorBlock.setFill("red")

if (guess[i] == "Y"):

colorBlock = Rectangle(Point(100 + (i \* 75), 32 + (tracker\*40)), Point(175 + (i \* 75), 72 + (tracker\*40)))

colorBlock.draw(w)

colorBlock.setFill("yellow")

if (guess[i] == "P"):

colorBlock = Rectangle(Point(100 + (i \* 75), 32 + (tracker\*40)), Point(175 + (i \* 75), 72 + (tracker\*40)))

colorBlock.draw(w)

colorBlock.setFill("purple")

if (guess[i] == "O"):

colorBlock = Rectangle(Point(100 + (i \* 75), 32 + (tracker\*40)), Point(175 + (i \* 75), 72 + (tracker\*40)))

colorBlock.draw(w)

colorBlock.setFill("orange")

correctText = Text(Point(450, 52 + tracker \* 40), correctNum)

correctText.draw(w)

def main():

gameStart = True

while gameStart:

drawBoard()

guessTrack = 0

gameContinue = True

code = createcode()

while gameContinue:

guess = ""

for i in range(560, 900, 95):

unassigned = True

while (unassigned == True):

clickOne = w.getMouse()

if ((490 > clickOne.getY() > 414) and gameStart == True):

if (522 < clickOne.getX() < 598):

guess += "G"

colorSquare = Rectangle(Point(i,22), Point(i+95, 370))

colorSquare.draw(w)

colorSquare.setFill("green")

colorSquare.setOutline("green")

unassigned = False

if (598 < clickOne.getX() < 674):

guess += "B"

colorSquare = Rectangle(Point(i,22), Point(i+95, 370))

colorSquare.draw(w)

colorSquare.setFill("blue")

colorSquare.setOutline("blue")

unassigned = False

if (674 < clickOne.getX() < 750):

guess += "R"

colorSquare = Rectangle(Point(i,22), Point(i+95, 370))

colorSquare.draw(w)

colorSquare.setFill("red")

colorSquare.setOutline("red")

unassigned = False

if (750 < clickOne.getX() < 826):

guess += "Y"

colorSquare = Rectangle(Point(i,22), Point(i+95, 370))

colorSquare.draw(w)

colorSquare.setFill("yellow")

colorSquare.setOutline("yellow")

unassigned = False

if (826 < clickOne.getX() < 902):

guess += "P"

colorSquare = Rectangle(Point(i,22), Point(i+95, 370))

colorSquare.draw(w)

colorSquare.setFill("purple")

colorSquare.setOutline("purple")

unassigned = False

if (902 < clickOne.getX() < 978):

guess += "O"

colorSquare = Rectangle(Point(i,22), Point(i+95, 370))

colorSquare.draw(w)

colorSquare.setFill("orange")

colorSquare.setOutline("orange")

unassigned = False

time.sleep(0.5)

for i in range(560, 900, 95):

colorSquare = Rectangle(Point(i,22), Point(i+95, 370))

colorSquare.draw(w)

colorSquare.setFill("white")

numcorrect = comparestrings(guess, code)

sidebarFill(guess, guessTrack, numcorrect)

guessTrack += 1

if (numcorrect == 4):

time.sleep(3)

boardClear = Rectangle(Point(0,0), Point(1000, 512))

boardClear.draw(w)

boardClear.setFill("white")

boardClear.setOutline("white")

winNotif = Text(Point(500, 150), "CONGRATULATIONS! YOU WIN!")

winNotif.draw(w)

askAgain = Text(Point(500, 200), "Would you like to play again?")

askAgain.draw(w)

boardClear = Rectangle(Point(0,226), Point(1000, 369))

boardClear.draw(w)

boardClear.setFill("green")

boardClear.setOutline("green")

boardClear = Rectangle(Point(0,369), Point(1000, 512))

boardClear.draw(w)

boardClear.setFill("red")

boardClear.setOutline("red")

choice = w.getMouse()

if (369 < choice.getY() < 512):

gameStart = False

boardClear = Rectangle(Point(0,175), Point(1000, 512))

boardClear.draw(w)

boardClear.setFill("white")

boardClear.setOutline("white")

if (guessTrack == 12):

gameContinue = False

boardClear = Rectangle(Point(0,0), Point(1000, 512))

boardClear.draw(w)

boardClear.setFill("white")

boardClear.setOutline("white")

askAgain = Text(Point(500, 200), "Would you like to play again?")

askAgain.draw(w)

boardClear = Rectangle(Point(0,226), Point(1000, 369))

boardClear.draw(w)

boardClear.setFill("green")

boardClear.setOutline("green")

boardClear = Rectangle(Point(0,369), Point(1000, 512))

boardClear.draw(w)

boardClear.setFill("red")

boardClear.setOutline("red")

choice = w.getMouse()

if (369 < choice.getY() < 512):

gameStart = False

boardClear = Rectangle(Point(0,0), Point(1000, 512))

boardClear.draw(w)

boardClear.setFill("white")

boardClear.setOutline("white")

main()