###I added comments to each type of command and tried to not be overly

#redudant with comments.

#imports the Turtle module

import turtle

wn = turtle.Screen() #creates the screen for the turtle to be drawn on

wn.bgcolor("blue") #set background color to blue

###CREATE THE DIFFERENT SNOWMAN TURTLES

###Creates the top of the snowman

top = turtle.Turtle()

#Assigns the top attributes

top.pensize(10) #sets pensize to 10

top.color("black") #sets color to black

top.fillcolor("white") #sets fill color to white

top.speed(0) #set turtle speed to fastest possible

#Reposition top startpoint

top.up() #lifts turtle up

top.setposition(0,27) #sets the position of the turtle (x,y)

top.down() #puts turtle back down

#Draws top circle (formula used from videos in Week 2)

top.begin\_fill() #begins the fill

for i in range (313): #draws the circle

top.forward(.75) #turtle moves forward

top.left(1.15) #turtle turns left

top.end\_fill() #ends the fill

top.hideturtle() #hides the turtle

###Creates the middle of the snowman

middle = turtle.Turtle()

#Assigns the middle attributes

middle.pensize(10)

middle.color("black")

middle.fillcolor("white")

middle.speed = (0)

#Reposition middle startpoint

middle.up()

middle.setposition(0,-100)

middle.down()

#Draws middle circle

middle.begin\_fill()

for i in range (313):

middle.forward(1.25)

middle.left(1.15)

middle.end\_fill()

middle.hideturtle()

###Creates the bottom of the snowman

bottom = turtle.Turtle()

#Assigns the bottom attributes

bottom.pensize(10)

bottom.color("black")

bottom.fillcolor("white")

bottom.speed(0)

#Reposition bottom startpoint

bottom.up()

bottom.setposition(0,-300)

bottom.down()

#Draws bottom circle

bottom.begin\_fill()

for i in range (313):

bottom.forward(2)

bottom.left(1.15)

bottom.end\_fill()

bottom.hideturtle()

###Creates the left and right eyes of the snowman

lefteye = turtle.Turtle()

righteye = turtle.Turtle()

#Reposition left and right eyes

lefteye.up()

lefteye.setposition(-17,70)

lefteye.down()

righteye.up()

righteye.setposition(17,70)

righteye.down()

#Draws the left and right eyes

lefteye.dot(14,"purple") #uses the dot(size,color) method

lefteye.hideturtle() #hides the turtle

righteye.dot(14,"brown")

righteye.hideturtle()

###Creates the buttons of the snowman

buttons = turtle.Turtle()

#Draws the buttons

for i in range (4):

buttons.dot(10,"red")

buttons.up()

buttons.setheading(270) #sets heading to South

buttons.forward(20)

buttons.down()

buttons.hideturtle()

###Creates the nose of the snowman

nose = turtle.Turtle()

#Assigns the nose attributes

nose.pensize(4)

nose.color("orange")

#Reposition the nose

nose.up()

nose.setposition(-10,60)

nose.down()

#Draws the nose

nose.forward(20)

nose.setheading(235)

nose.forward(20)

nose.setheading(115)

nose.forward(19)

nose.hideturtle()

###Creates the arms of the snowman

rightarm = turtle.Turtle()

leftarm = turtle.Turtle()

#Assigns the arm attributes

rightarm.pensize(6)

leftarm.pensize(6)

#Reposition the arms

rightarm.up()

rightarm.setposition(60,-10)

rightarm.down()

leftarm.up()

leftarm.setposition(-60,-10)

leftarm.down()

#Draw the right arm

rightarm.forward(70)

rightarm.backward(10)

rightarm.left(45)

rightarm.forward(10)

rightarm.backward(20)

rightarm.forward(10)

rightarm.left(90)

rightarm.forward(10)

rightarm.backward(20)

rightarm.hideturtle()

#Draw the left arm

leftarm.backward(70)

leftarm.forward(10)

leftarm.left(45)

leftarm.forward(10)

leftarm.backward(20)

leftarm.forward(10)

leftarm.left(90)

leftarm.forward(10)

leftarm.backward(20)

leftarm.hideturtle()

###Creates the hat

hat = turtle.Turtle()

#Assigns the hat attributes

hat.pensize(4)

hat.fillcolor("pink")

#Repositions the hat

hat.up()

hat.setposition(-18,105)

hat.down()

#Draws that hat

hat.begin\_fill()

hat.forward(40)

hat.left(90)

hat.forward(10)

hat.left(90)

hat.forward(10)

hat.right(90)

hat.forward(20)

hat.left(90)

hat.forward(20)

hat.left(90)

hat.forward(20)

hat.right(90)

hat.forward(10)

hat.left(90)

hat.forward(10)

hat.end\_fill()

hat.hideturtle()

###CODE FOR TREES

###I ran into an issue with turtles being drawn over by filling so now I am

#grouping items together so that they draw correctly and in order.

#Creates the first tree

treetrunk1 = turtle.Turtle()

treetop1 = turtle.Turtle()

#Sets the first tree attributes

treetrunk1.color("brown")

treetrunk1.pensize(6)

treetrunk1.fillcolor("brown")

treetop1.color("green")

treetop1.pensize(6)

treetop1.fillcolor("green")

#Reposition the first tree turtles

treetrunk1.up()

treetrunk1.setposition(190,-10)

treetrunk1.down()

treetop1.up()

treetop1.setposition(180,20)

treetop1.down()

#Draw the first tree

treetrunk1.begin\_fill()

treetrunk1.forward(10)

treetrunk1.left(90)

treetrunk1.forward(30)

treetrunk1.left(90)

treetrunk1.forward(12)

treetrunk1.end\_fill()

treetop1.begin\_fill()

treetop1.forward(30)

treetop1.left(110)

treetop1.forward(50)

treetop1.left(110)

treetop1.end\_fill()

treetop1.hideturtle()

#Creates the second tree

treetrunk2 = turtle.Turtle()

treetop2 = turtle.Turtle()

#Sets the second trees attributes

treetrunk2.color("brown")

treetrunk2.pensize(6)

treetrunk2.fillcolor("brown")

treetop2.color("green")

treetop2.pensize(6)

treetop2.fillcolor("green")

#Reposition the second treet turtles

treetrunk2.up()

treetrunk2.setposition(-190,-10)

treetrunk2.down()

treetop2.up()

treetop2.setposition(-200,20)

treetop2.down()

#Draw the second tree

treetrunk2.begin\_fill()

treetrunk2.forward(10)

treetrunk2.left(90)

treetrunk2.forward(30)

treetrunk2.left(90)

treetrunk2.forward(12)

treetrunk2.end\_fill()

treetop2.begin\_fill()

treetop2.forward(30)

treetop2.left(110)

treetop2.forward(50)

treetop2.left(110)

treetop2.end\_fill()

treetop2.hideturtle()

###END

turtle.mainloop() #waits for user to close the window

