

# Chapter 8

## The Final Project

### What we have learned

Congratulations! You have learned enough in this course to start writing full programs by yourself! Just in case you've forgotten, here is a list of everything you have learned:

```
for i in range(number)      while timeRemaining(seconds)      if, elif, else
forward(speed,seconds)      backward(speed,seconds)      turnLeft(speed,seconds)
turnRight(speed,seconds)    motors(leftSpeed, rightSpeed)    getLight("center")
getIR("left") takePicture() show(picture) getWidth(picture) getHeight(picture)
getPixels(picture)          getRGB(pixel)          getX(pixel)          getY(pixel)
setColor(pixel,color)      setForwardness(1)      speak("Hello")      setName("Doug")
print "woohoo!"            wait(seconds)            stop()
```

### A review of what we've done

In this class we have built a lot of useful programs. You have drawn shapes, used loops to create dances, we made robot creates using variables, and used conditionals to solve a maze. Last week you learned a little bit about image processes sing to create your own Obamicons. Today you have the freedom to write whatever kind of program you want. Try to incorporate as much of what you learned as you can, especially loops and conditionals!

Here are some ideas:

- Light following program
- Change a color photograph to black and white except for one color
- Draw modern art
- Write a robot play
- Choose your own adventure story using pictures
- A simple text-based game (like a guessing game, or a choose your own adventure game)
- Determine if a specific color or set of colors are in a picture
- Alter your old dance to make it even better

Or make up your own idea!

### Your Final Programs

Once you have chosen what you would like to do, think about how you will go about doing it. Write down your ideas for your algorithm in English first, then try and write it in Python. Write your program little by little and test every few minutes to make sure things are going well.

Don't be afraid to ask questions or get feedback from your teacher. Best of luck and congratulations on finishing the course!