

Lesson Plan Musings

Concepts

Naming (Variables)

```
name = make.componant(port number)
```

Componants:

- Button
- Motors
- Drivetrain

Actions (Functions)

```
componant.action()  
componant.action(values)  
make.action(values)
```

Actions:

- button.pressed()
- motor.spin(speed, seconds) & motor.stop()
- drivetrain.drive(speed, seconds), drivetrain.turn(speed, seconds), drivetrain.curve(left speed, right speed, seconds), drivetrain.stop()
- make.wait(seconds) & make.wait_until(button.pressed)

Code Order

Reads top to bottom, doesn't go to the next line until the previous one finishes.

Program Format

```
import make  
  
name = make.componant(port)  
name = make.componant(port)  
name = make.componant(port)  
  
name.action(values)  
name.action(values)  
make.action(values)  
name.action()  
name.action(values)
```

Example Lesson Code

General Program

```
# All programs must start with:
import make

# Then, you name all of your componants:
stopbutton = make.button(1)
grabbyarm = make.smallmotor(6)
leftmotor = make.largemotor(7)
rightmotor = make.largemotor(8)
myrobot = make.drivetrain(leftmotor, rightmotor)

# Now you do all your actions
grabbyarm.spin(speed=70)
make.wait_until(stopbutton.pressed)
grabbyarm.stop()

myrobot.drive(speed=100, seconds=2)
myrobot.turn(speed=-40, seconds=0.5)
myrobot.curve(left_speed=90, right_speed=60, seconds=5)

make.wait(seconds=2)
myrobot.turn(speed=10)
make.wait_until(stopbutton.pressed)

# Remember, code reads top to bottom! Each line won't run until the one above
# it finishes, and once the program reaches the end of the code everything
# stops
```

Common Loop Mistake

```
import make

stopbutton = make.button(2)
motor = make.smallmotor(3)

while not stopbutton.pressed():
    motor.spin(50, 2)
    make.wait(2)
```