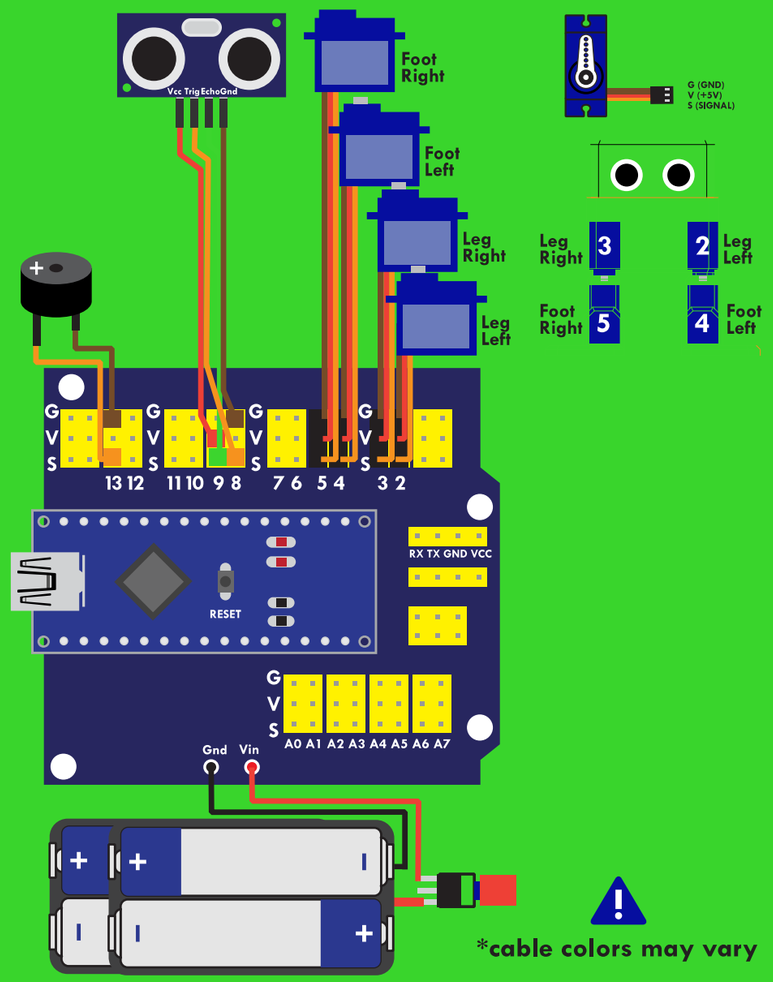
CHEAT SHEET



*cable colors may vary

Include

```
#include <Servo.h>
#include <Oscillator.h>
#include <US.h>
#include <Otto.h>
```

Class instance

```
Otto Otto;
```

Constants

```
#define FORWARD    1          #define BACKWARD   -1
#define LEFT       1          #define RIGHT      -1
#define SMALL      5          #define MEDIUM     15
#define BIG        30
#define PIN_Buzzer 13         #define PIN_Trigger 8
#define PIN_Echo   9          #define PIN_NoiseSensor A6
```

Motion functions

void **jump**(float **steps**=1, int **T** = 2000);

Parameters: **steps**: Number of steps / **T**: Period

void **walk**(float **steps**=4, int **T**=1000, int **dir** = FORWARD);

Parameters: **steps**: Number of steps / **T** : Period / **dir**: direction: FORWARD / BACKWARD

void **turn**(float **steps**=4, int **T**=2000, int **dir** = LEFT);

Parameters: steps: Number of steps / T: Period / dir: direction: LEFT / RIGHT

void **bend** (int **steps**=1, int **T**=1400, int **dir**=LEFT);

Parameters: **steps**: Number of bends / **T**: Period of one bend / dir: RIGHT=Right bend LEFT=Left bend

void **shakeLeg** (int **steps**=1, int **T** = 2000, int **dir**=RIGHT);

Parameters: **steps**: Number of shakes / **T**: Period of one shake / **dir**: RIGHT=Right leg LEFT=Left leg

void **updown**(float **steps**=1, int **T**=1000, int **h** = 20);

Parameters: **steps**: Number of jumps / **T**: Period / **h**: Jump height: SMALL / MEDIUM / BIG (or a number in degrees 0 - 90)

void swing(float steps=1, int T=1000, int h=20);

void tiptoeSwing(float steps=1, int T=900, int h=20);

void jitter(float steps=1, int T=500, int h=20);

void ascendingTurn(float steps=1, int T=900, int h=20);

void moonwalker(float steps=1, int T=900, int h=20, int dir=LEFT);

void **crusaito**(float **steps**=1, int **T**=900, int **h**=20, int **dir**=FORWARD);

Parameters: **steps**: Number of steps / **T**: Period / **h**: height (Values between 20 - 50) / **dir**: Direction: LEFT / RIGHT

void **flapping**(float **steps**=1, int **T**=1000, int **h**=20, int **dir**=FORWARD);

Parameters: **steps**: Number of steps / **T**: Period / **h**: height (Values between 10 - 30) / **dir**: direction: FORWARD, BACKWARD

Otto at rest position

```
void home();
bool getRestState();
void setRestState(bool state);
```

Sensor functions

```
float getDistance(); //UltraSonic sensor
int getNoise();      //Noise Sensor
```

Battery functions

```
double getBatteryLevel();
double getBatteryVoltage();
```

Mouth & Animations

void putMouth(unsigned long int mouth, bool predefined = true);

void putAnimationMouth(unsigned long int anim, int index);

void clearMouth();

Sounds

void _tone (float noteFrequency, long noteDuration, int silentDuration);

void bendTones (float initFrequency, float finalFrequency, float prop, long noteDuration, int silentDuration);

void sing(int songName)

songName = S_connection, S_disconnection, S_buttonPushed, S_mode1, S_mode2, S_mode3, S_surprise, S_OhOoh, S_OhOoh2, S_cuddly, S_sleeping, S_happy, S_superHappy, S_happy_short, S_sad, S_confused, S_fart1, S_fart2, S_fart3

Gesture

void playGesture(int gesture);

Gesture = OttoHappy, OttoSuperHappy, OttoSad, OttoSleeping, OttoFart, OttoConfused, OttoLove, OttoAngry, OttoFretful, OttoMagic, OttoWave, OttoVictory, OttoFail,