# ACTIVITY M28
# How far does it go?

**Task**
Students will insert a function with argument below their code. They will then put in new fractions and compare the value of each pair of fractions.

**Materials**
- Assembled DemoBot
- JBC mat A
- Meter Stick
- Pseudocode paper

**Prerequisites**
Module 9- Moving Your Robot, Module- Creating Functions with Void

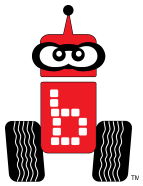
**Standards:**
**TEKS 4.3C**
**Goals**
Given two fractions that are placed into a custom function, students will determine how these two fractions are related to one another. The students will measure the distance the robot travels and compare the distances and/or fractions. TEKS 4.3C

**Directions**
1. After opening a new file, put the following code into your program:

```
#include <kipr/botball.h>

int main()
{
    void speed_in_fractions(int fraction);
    printf("Hello World\n");
    motor(0,100);
    motor(3,100);
    speed_in_fractions(1/2);

    return 0;
}

void speed_in_fractions(int fraction)
{
    int x = fraction * 1000;
    msleep(x);
}
```

2. Run the program and, using a meter stick, determine how far the robot moved. Record the distance to the nearest centimeter in a data table.

| fraction | 1/2 | 2/4 | 3/6 | 4/8 | 2/1 | 4/2 | 6/3 | 8/4 |
|---|---|---|---|---|---|---|---|---|
| Distance (cm) | | | | | | | | |



3. Replace the ½ in the speed_in_fractions argument with 2/4. Repeat with 3/6. Repeat with 4/8.

4. Repeat with 2/1, 4/2,6/3, and 8/4.

5. Answer the following questions: How do the results (distance robot moved) of each trial compare with the other trials? Which set of fractions can you group together? Why? What conclusions can you draw from this data?

Anchor Charts