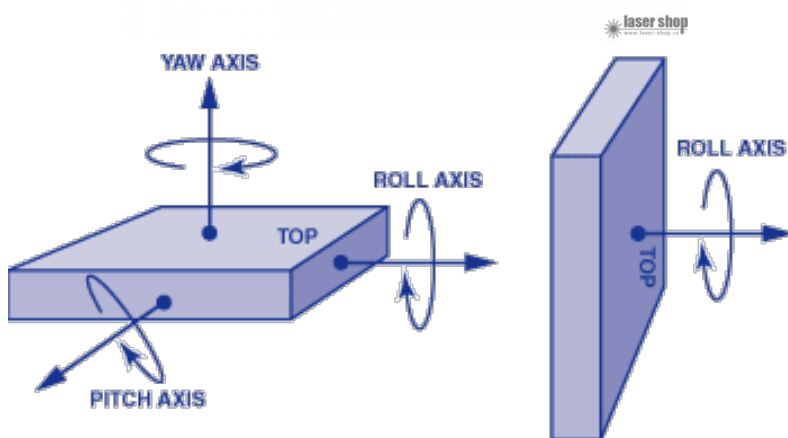
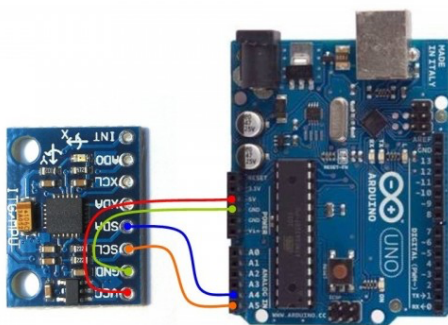


The gyroscope determines the rotation of the x-, y-, and z-axes. The variability of the outputs creates some difficulty in reading, but an if else conditional statement will enable the user to receive a close to perfect reading nonetheless. In the gyroscope code, we need to divide the original x, y, and z by 114 to reduce the noise, as the max output number is ~32000. If we did not divide by 114, we would have had a null syntax error. This will give us smaller numbers to work with.



```
if (y < -100) {  
  Horizontal = true;  
}  
else {  
  Horizontal = false;  
}  
if (Horizontal == true) {  
  Serial.println("Horizontal");  
}  
if (y > 100) {  
  Vertical = true;  
}  
else {  
  Vertical = false;  
}  
if (Vertical == true) {  
  Serial.println("Vertical");  
}  
if (x > 75 && y < -75) {  
  Swingforward = true;  
}  
else {  
  Swingforward = false;  
}  
if (Swingforward == true) {  
  Serial.println("Swinging forward");  
}  
}  
  
Vertical  
Raw X:226 Raw Y:137 Raw Z:146  
Vertical  
Raw X:137 Raw Y:16 Raw Z:70  
Raw X:78 Raw Y:-115 Raw Z:-76  
Horizontal  
Swinging forward  
Raw X:-137 Raw Y:-42 Raw Z:-137  
Raw X:175 Raw Y:123 Raw Z:123  
Vertical
```

Here's a video of how the gyroscope works:

<https://www.youtube.com/watch?v=ce3eA8nzInE>