ALGORITHM FOR DETERMINING ORIENTATION

Suppose : AccX is X-component of acceleration
AccY is Y-component of acceleration
AccZ is Z-component of acceleration

For Z Firstly determine if the magnitude of AccZ is k-times (or more) greater than the magnitudes of AccX and AccY.
If this is the case the sign of AccZ determines the orientation

This is pseudo-code

You need to convert to C!

```
IF |AccZ| > k|AccX|  AND  |AccZ| > k|AccY| then
    IF AccZ > 0
        // Deal with Flat
    ELSE
        // Deal with Base-up
    ENDIF
ENDIF
```

This is for Z
Take a similar approach for the X and Y values. (For the other 4 orientations)