Reading Barcodes

Universal Product Codes (UPCs) are the twelve digit barcodes used to identify merchandise at checkout. UPCs are comprised of 95 strips of black or white which code for the twelve numbers.

Diagram A

UPCs have three sets of "helper" sequences that machines use to identify the start, middle, and end of the barcode. These sequences do not code for numbers.

Sequences at the beginning and end: **Black**, White, **Black**
Sequence in the middle: White, **Black**, White, **Black**, White

Diagram B

There are four sizes of bars, each length is a multiple of the smallest bar (e.g. the largest bar is four times the size of the smallest bar). The sequences of length can be used to attain the number.

Diagram C

It takes four bar-lengths to code for one number in the bar code For example, the sequence highlighted in red on Diagram C is 3, 2, 1, 1, which codes for the leftmost 0. To practice which sequences code for which numbers, try this Quizlet, and then use this website. To double check yourself, all sequences of four bar-lengths add to seven.

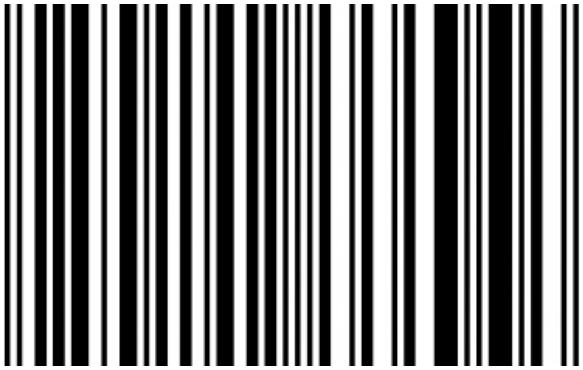

Diagram D

It is relatively easy to tell whether or not a barcode is upside down. Read the first four bars on the left (that are not helpers) and make note of the color and number. For Diagram D, they would be 2 white, 2 black, 1 white, 2 black.

At this point, if the sequence does not code for a valid number, it is upside down. For Diagram D, 2212 does not code for a number and is therefore upside down.

There is another way to check as well. Add the sizes of white spaces for the first number, and if they are odd, then the barcode is upside down. For Diagram D's first set of bars, 2 white + 1 white = 3 white, so the barcode is upside down.

To Practice Identification, Try This Website