Program Notes

The while condition looks like this:

while (name[i] != ' 0')

It tests whether a particular character in the array is the null character. For this test eventually to succeed, the loop body needs to change the value of i. It does so by incrementing i at the end of the loop body. Omitting this step keeps the loop stuck on the same array element, printing the character and its code until you manage to kill the program. Such an infinite loop is one of the most common problems with loops. Often you can cause it when you forget to update some value within the loop body.

You can rewrite the while line this way:

while (name[i])

With this change, the program works just as it did before. That's because when name[i] is an ordinary character, its value is the character code, which is nonzero, or true. But when name[i] is the null character, its character-code value is 0, or false. This notation is more concise (and more commonly used) but less clear than what we used. Dumb compilers might produce faster code for the second version, but smart compilers will produce the same code for both.

To get the program to print the ASCII code for a character, the program uses a type cast to convert name[i] to an integer type. Then, cout prints the value as an integer rather than interprets it as a character code.

for Versus while