Keiran Berry

CSC372 Analysis of Algorithms

Project 2

a. The input of the program would be a music file, and the input for the FFT would be an interval of the music.
b. You would need to preprocess the input in that you would need to split up the music into sections. You may also want to consider whether important sections of the music end up bordering on each other, or splitting between two sections.
c. To find the answer from the FFT results, you would look at the local maxima of the magnitudes returned, as those are most likely the beats. You could take the resulting average of beats per time frame, and scale that to be in bpm. The formula used for this would be:

$$bp$$

where b is the number of beats per time frame and p is the number of time frames per minute. This would give the resulting answer to beat time in bpm, or beats per minute.