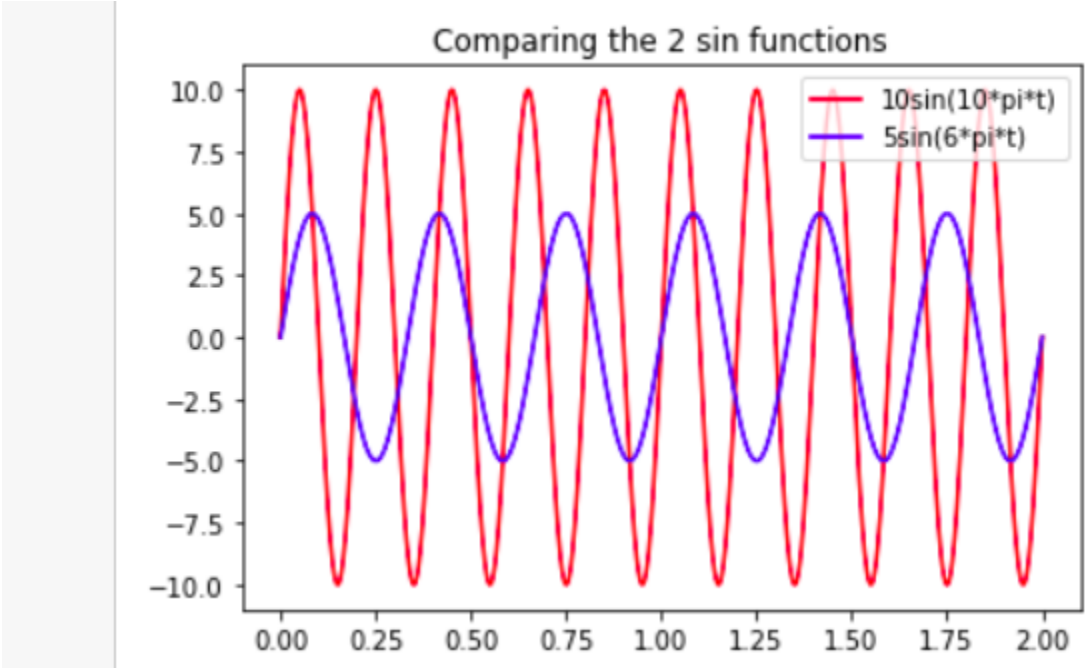
We know that the expression for the fourier transform is ,

$$F(k) = \int_{-\infty}^{\infty} f(x) e^{-2\pi i k x} dx$$

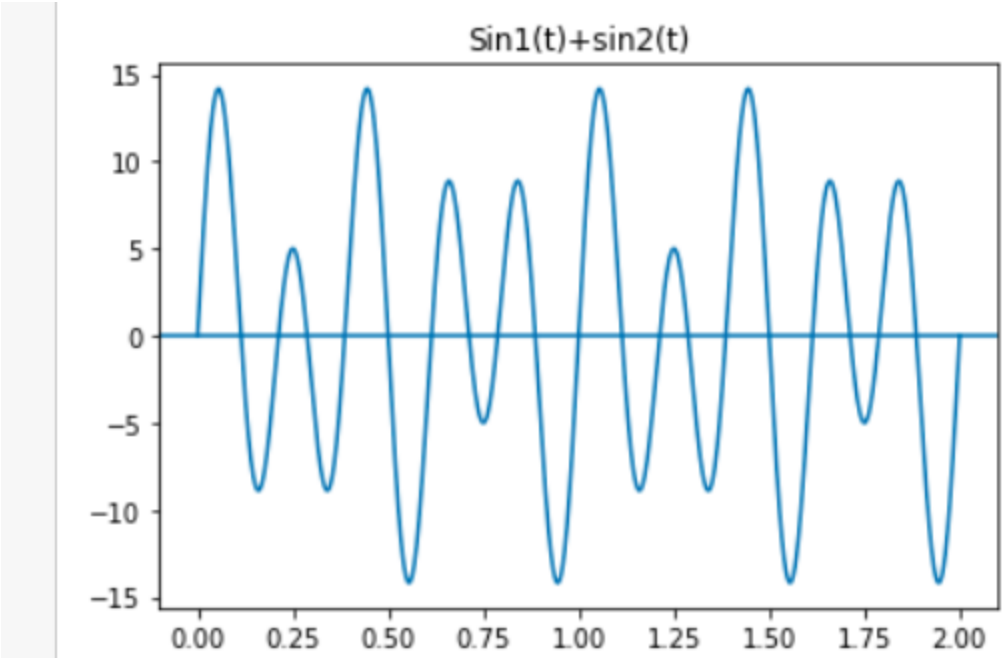
Here we get the exponential term because it is the resultant of the expression,

sin(2**π**kx) + i sin(2**π**kx + **π**/2).

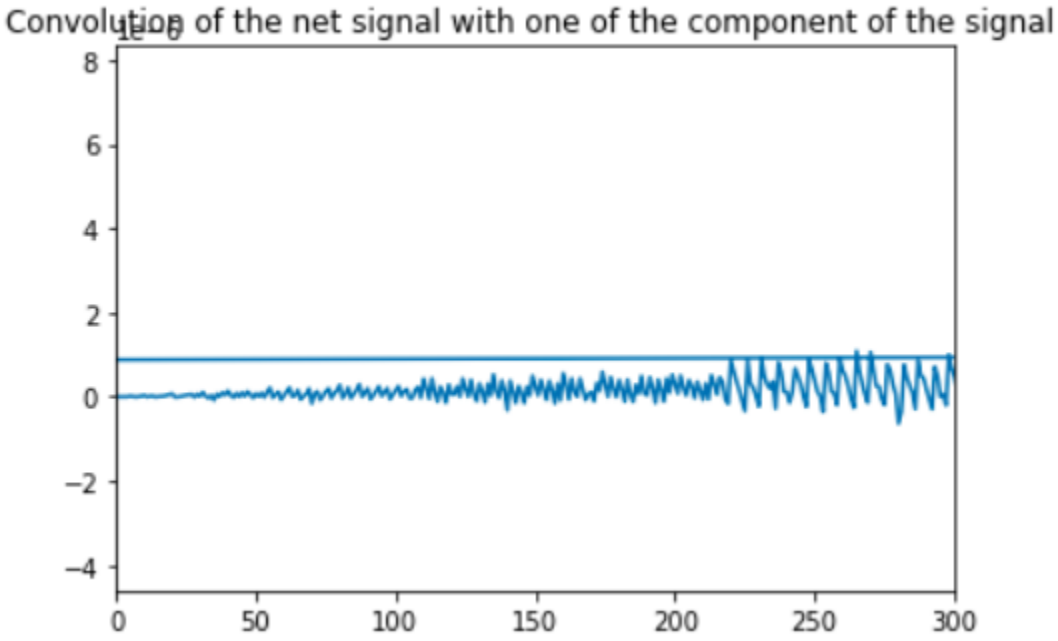
In this question I assumed that the net signal is the sum of the 2 signals 10sin(10*pi*t) & 5sin(6*pi*t).

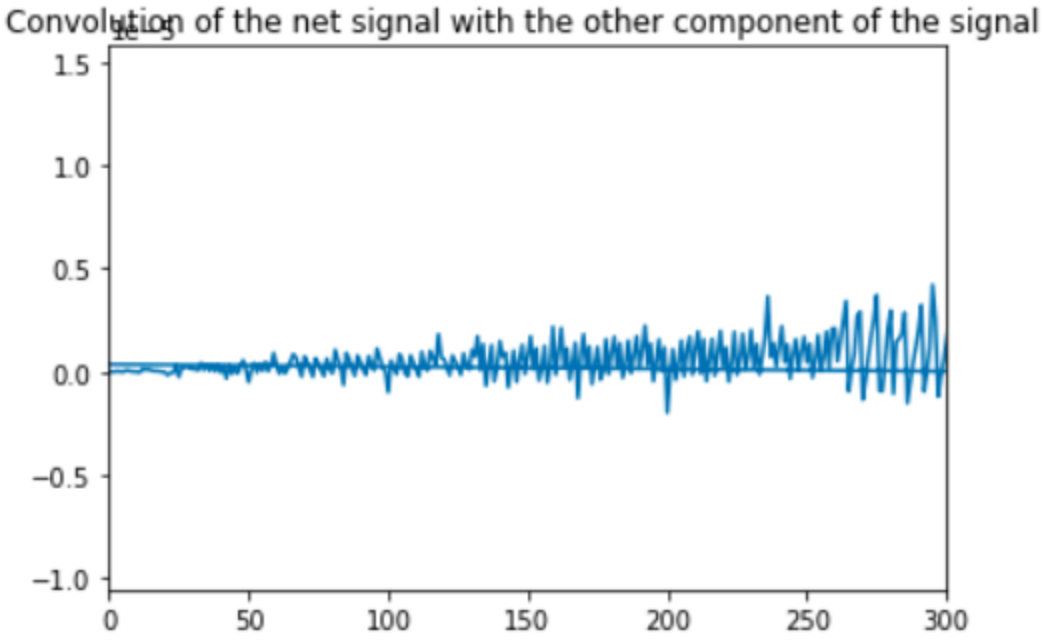


The net signal is,

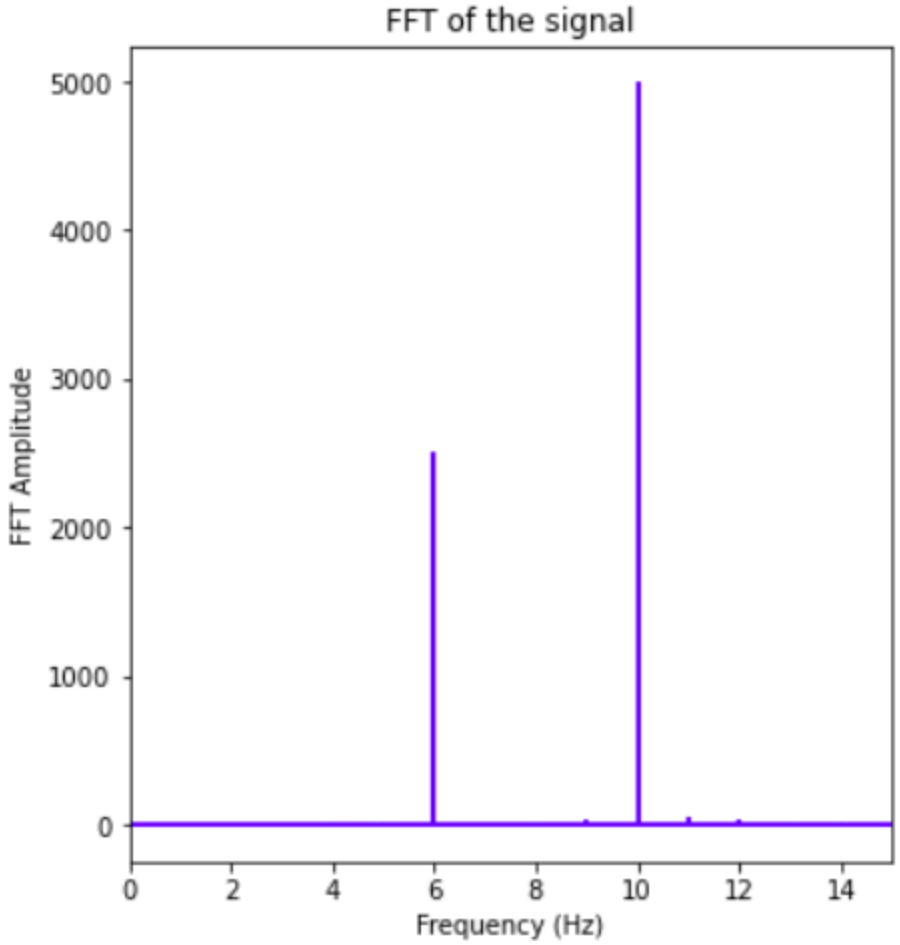


Here instead of doing the fourier transformation of the net signal, if we do the convolution of the signal with the net signal we can know how much of the signal is present in the net signal.





Now if we do the fourier transform of the signal, we get,



As we can see in the image that the peak occurs at 2 different frequencies namely at 6 Hz and 10Hz, we can say that the net signal comprises of 2 components which have a frequency of 6 Hz and 10Hz, and since the peak at 10 Hz is higher than that at 6 Hz we can say that the 10 Hz signal contributes more to the amplitude of the signal.