

Questions or Review Issues for Week 2

For a block of signal samples $[x(0), x(1), x(2), x(3), x(4), x(5), x(6), x(7)]$:

1. Write the 8-point DFT of the block;
2. Work out the system diagram for the DFT when using the radix-2 decimation-in-time FFT algorithm;
3. Work out the system diagram for the DFT when using the radix-2 decimation-in-frequency FFT algorithm;
4. Work out the system diagram for the DFT when using the radix-4 decimation-in-frequency FFT algorithm;
5. Compare the number of multiplications required for computing the DFT using the three approaches above.