

數位影像處理 DIP Homework Chapter 4_1 (100 pts)

1. If a discrete sequence ($M=4$) is $\{f(0), f(1), f(2), f(3)\} = \{4, 2, 1, 5\}$, please find its DFT $F(u)$? and count how many multiplications and additions in the $M=4$ DFT ? (30)
2. If a discrete sequence ($M=8$) is $\{f(0), f(1), f(2), f(3), f(4), f(5), f(6), f(7)\} = \{4, 2, 1, 5, 4, 2, 1, 5\}$, please find its DFT $F(u)$? and count how many multiplications and additions in the $M=8$ DFT ? (30)
3. If a discrete sequence ($M=8$) is $\{f(0), f(1), f(2), f(3), f(4), f(5), f(6), f(7)\} = \{4, -2, 1, -5, 4, -2, 1, -5\}$, please find its DFT $F(u)$? and count how many multiplications and additions in the $M=8$ DFT ? (30)
4. Please state the relation between the question (1), (2), and (3) ? (10)