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// C program to find dft of a given sequence
#include <math.h>
#include <stdio.h>
// Driver Code

// Function to calculate the DFT
void calculateDFT(int len)
{
    int xn[10];
    float Xr[10];
    float Xi[10];
    int i, k, n, N = 0;

    for (i = 0; i < len; i++)
    {
        printf("Enter the value of x[%d]: ", i);
        scanf("%d", &xn[i]);
    }

    printf("Enter the number of "
           "points in the DFT: ");
    scanf("%d", &N);
    for (k = 0; k < N; k++) {
        Xr[k] = 0;
        Xi[k] = 0;
        for (n = 0; n < len; n++) {
            Xr[k]
                = (Xr[k]
                   + xn[n] * cos(2 * 3.141592 * k * n / N));
            Xi[k]
                = (Xi[k]
                   - xn[n] * sin(2 * 3.141592 * k * n / N));
        }

        printf("(%.f) + j(%.f)\n", Xr[k], Xi[k]);
    }
}

int main()
{
    int len = 0;
    printf("Enter the length of the sequence: ");
    scanf("%d", &len);
    calculateDFT(len);

    return 0;
}

```