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#include <stdio.h>
#include <stdlib.h>

int gcd(int size, int d)
{
    return (d == 0) ? size: gcd(d, (size % d));
}

void RotateLeft(int arr[], int d, int size)
{
    int index1, index2, index3, temp;
    for(index1 = 0; index1 < gcd(size, d); index1++)
    {
        temp = arr[index1];
        index2 = index1;
        while(1)
        {
            index3 = index2 + d;
            if(index3 >= size)
                index3 = index3 - size;
            if(index3 == index1)
                break;
            arr[index2] = arr[index3];
            index2 = index3;
        }
        arr[index2] = temp;
    }
}

void printArray(int arr[], int size)
{
    for(int index = 0; index < size; index++)
        printf("%d\t", arr[index]);
}

int main()
{
    int *arr, size, d;
    printf("Enter size of the array\n");
    scanf("%d", &size);
    printf("Enter elements in array\n");
    for(int index = 0; index < size; index++)
        scanf("%d", &arr[index]);
    printf("Enter value of d\n");
    scanf("%d", &d);
    RotateLeft(arr, d, size);
    printArray(arr, size);
    return 0;
}

```

Time complexity:  $O(n)$   
space complexity:  $O(1)$