Left array rotation

#include <iostream>

using namespace std;

void rotatearrayone(int arr[],int n){

int temp=arr[0];

for(int i=0;i<n;i++){

arr[i]=arr[i+1];

}

arr[n-1]=temp;

}

void rotatearray(int arr[],int n,int d){

for(int i=0;i<d;i++){

rotatearrayone(arr,n);

}

}

void print(int arr[],int n){

for(int i=0;i<n;i++){

cout<<arr[i]<<" ";

}

cout<<"\n";

}

int main() {

//code

int t,n,d;

cin>>t;

while(t--){

cin>>n;

int arr[n];

cin>>d;

for(int i=0;i<n;i++){

cin>>arr[i];

}

rotatearray(arr,n,d);

print(arr,n);

}

return 0;

}

Error: not optimized , took 2 secs

Optimized code

#include <iostream>

using namespace std;

void reverse(int arr[],int start, int end){

while(start<end){

int temp=arr[start];

arr[start]=arr[end];

arr[end]=temp;

start++;

end--;

}

}

void rotatearray(int arr[],int n,int d){

if(d==0)

return;

d=d%n;

reverse(arr,0,d-1);

reverse(arr,d,n-1);

reverse(arr,0,n-1);

}

void print(int arr[],int n){

for(int i=0;i<n;i++){

cout<<arr[i]<<" ";

}

cout<<"\n";

}

int main() {

//code

int t,n,d;

cin>>t;

while(t--){

cin>>n;

int arr[n];

cin>>d;

for(int i=0;i<n;i++){

cin>>arr[i];

}

rotatearray(arr,n,d);

print(arr,n);

}

return 0;

}

Algorithm: <https://www.geeksforgeeks.org/program-for-array-rotation-continued-reversal-algorithm/>