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#include <iostream>
#include <cstdlib>
#include <ctime>

using namespace std;

const int N = 20;

void inputData(int a[], int b[], int n) {
    int i;

    for (i = 0; i < n; i++)
        a[i] = b[i] = rand() % 20;
}

void outputData(int a[], int n) {
    int i;

    for (i = 0; i < n; i++)
        cout << a[i] << " ";

    cout << endl;
}

void partitionEvenOdd(int a[], int n) {
    int i, j;

    for (i = 0; i < n - 1; i++)
        for (j = i + 1; j < n; j++)
            if (a[i] % 2 == 1 && a[j] % 2 == 0)
                swap(a[i], a[j]);
}

void sortEvenOdd(int a[], int n) {
    int i, j;

    for (i = 0; i < n - 1; i++)
        for (j = i + 1; j < n; j++)
            if ((a[i] % 2 == 0 && a[j] % 2 == 0 && a[i] >
a[j])
                || (a[i] % 2 && a[j] % 2 && a[i] < a[j]))
                swap(a[i], a[j]);
}

int main(int argc, char** argv) {
    int a[N], b[N], n = 10;
    srand(time(0));

```

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    inputData(a, b, n);  
    cout << "Before: " << endl;  
    outputData(a, n);  
  
    sortEvenOdd(b, n);  
    cout << "After sorting: " << endl;  
    outputData(b, n);  
  
    partitionEvenOdd(a, n);  
    cout << "After patitioning: " << endl;  
    outputData(a, n);  
  
    return 0;  
}
```