Question 5: Write a program to arrange elements of an SDA in the pendulum manner

Sample Input:

14	6	19	21	12

Sample output:

21	14	6	12	19

Sample Input

40	10	30	20

Sample output:

30	10	20	40

Solution:

```java
import java.util.*;
class pendulam
{
    void pendulam_1(int arr[],int n)
    {
        int op[]=new int[n];
        int i,j,mid=0;
        mid=(n-1)/2;
        j=1;i=1;
        op[mid]=arr[0];
```

Sorted array

5/4 an

6	12	14	19	21
0	1	2	3	4

$(5-1)/2$ $1 = (4-1)/2 \rightarrow$ Sorted array

mid

10	20	30	8 40
0	1	2	3

6

```
for(i=1;i<=mid;i++)
{  j=2*i;
   op[mid+i]=arr[j++];
   op[mid-i]=arr[i++];
}  i=1/2

if(n%2==0)
op[mid+i]=arr[i];
   i+=2

System.out.println("Pendulam arrangement:");

for(i=0;i<n;i++)
System.out.print(op[i]+"\t");
}
```



```
void sort(int arr[],int n)   // Sorting in ascending order
{
  for(int i=0;i<n-1;i++)
  {
    for(int j=i+1;j<n;j++)
    {
       if(arr[j] < arr[i])
       {
         int t=arr[i];
         arr[i]=arr[j];
         arr[j]=t;
       }
    }
  }
  System.out.println("After sorting:");
  for(int i=0;i<n;i++)
  {
    System.out.print(arr[i]+"\t");
  }
  System.out.println();

}

public static void main()
{
Scanner sc=new Scanner(System.in);
int n;
System.out.println("Enter the size of an array:");
n=sc.nextInt();
int arr[]=new int[n];
```

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```java
int op[]=new int[n];
int i,j,mid=0;
System.out.println("Enter "+n+" elemets:");
for(i=0;i<n;i++)
{
arr[i]=sc.nextInt();
}


pendulam p1=new pendulam();
p1.sort(arr,arr.length);
p1.pendulam_1(arr,arr.length);

}
}
```

to accept a natural within 4000(deci