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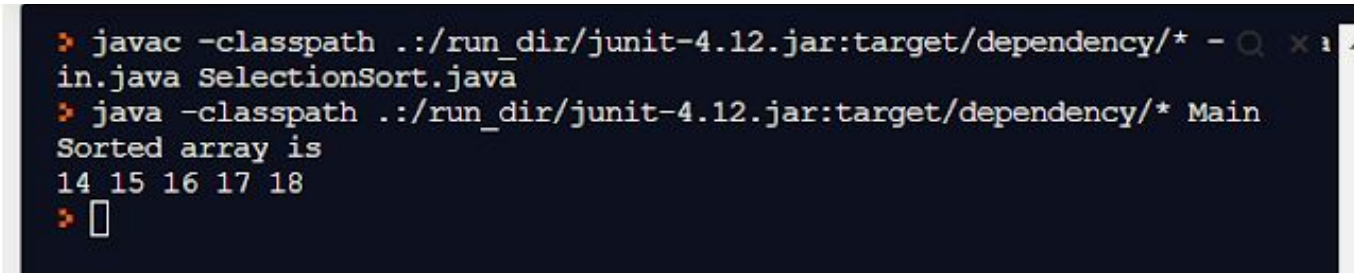
Code:

```
import java.io.*;
class Main
{
   void sort(int arr[])
   {
       int n = arr.length;
       for (int i = 0; i < n-1; i++)
       {
           int index = i;
           for (int j = i+1; j < n; j++)
               if (arr[j] < arr[index])
                 index = j;
           int temp = arr[index];
           arr[index] = arr[i];
           arr[i] = temp;
       }
   }
   void print(int arr[])
   {
       int n = arr.length;
       for (int i=0; i<n; ++i)
           System.out.print(arr[i]+" ");
       System.out.println();
   }
   public static void main(String args[])
   {
       Main obj = new Main();
```

```
        int arr[] = {18,16,15,17,14};
        obj.sort(arr);
        System.out.println("Sorted array is");
        obj.print(arr);
    }
}
```

OUTPUT



Selection Sort(arr[ ], size)

size : n 1

Algorithm → O

{

n-1 ← for (i = 0; i < size-1; i++) → i = 1 word

{

for (j = i+1; j < size; j++) → j = 1 word

$\frac{n(n-1)}{2}$ {

if (arr[i] > arr[j])

{

swap (arr[i], arr[j]);

}

}

}

}

counts = $0 + (n-1) + \frac{(n-1)n}{2}$

$= n-1 + \frac{n^2-n}{2}$

$= \frac{n^2+n-2}{2}$

Time complexity = $O(n^2)$

Space complexity = n+1+1+1 words

= n+3 words

Space complexity = $O(n)$