Schedule Tasks on Minimum Machines

Try to solve the Schedule Tasks on Minimum Machines problem.

We'll cover the following

Statement

Given a set of n number of tasks, implement a task scheduler method, **tasks()**, to run in $O(n \log n)$ time that finds the minimum number of machines required to complete these n tasks.

Constraints:

- $1 <= $ `tasks.length` $<= 10^4$
- $0 \leq task_i.start < task_i.end \leq 10^6$

Examples

Sample example 1

Input

```
Tasks = [(1, 7), (8, 13), (5, 6), (10, 14), (6, 7)]
```

Output

```
minimum machines required = 2
```

In this example, two machines are required to execute all the input tasks.

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Understand the problem

Let's take a moment to make sure you've correctly understood the problem. The quiz below helps you check if you're solving the correct problem:

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1 What is the minimum number of machines required to complete the following tasks?

[(1, 7), (8, 9), (3, 6), (9, 14), (6, 7)]

A) 3

B) 2

C) 5

D) 1

Submit Answer

Question 1 of 3
0 attempted

Reset Quiz

Figure it out!

We have a game for you to play. Rearrange the logical building blocks to develop a clearer understanding of how to solve this problem.

Drag and drop the cards to rearrange them in the correct sequence.

Initialize a counter to calculate the minimum number of machines required.

Iterate the tasks, and for each task, check the following conditions.

If there is an overlap with a previously scheduled task, increment the machine counter and schedule the task on a new machine.

Otherwise, schedule the current task on an available machine.

If all the tasks have been scheduled, return the counter.

Reset | Show Solution | Submit

Implement your solution in the following coding playground.

Java

usercode > ScheduleTask.java

```java
import java.util.*;

class ScheduleTask {
  public static int tasks(List<List<Integer>> tasksList) {

    // Your code will replace this placeholder return statement

    return -1;
  }
}
```

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Test Cases | Results

Case 1 | Case 2 | Case 3

Input #1

[[1,1],[5,5],[8,8],[4,4],[6,6],[10,10],[7,7]]

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