# Problem 5 – Semantic HTML

You are given an **HTML code**, written in the old **non-semantic** style using tags like **<div id="header">**, **<div class="section">**, etc. Your task is to write a program that **converts this HTML to semantic HTML** by changing tags like **<div id="header">** to their semantic equivalent like **<header>**.

The non-semantic tags that should be converted are **always <div>**s and have either **id** or **class** with one of the following values: "**main**", "**header**", "**nav**", "**article**", "**section**", "**aside**" or "**footer**". Their corresponding closing tags are always followed by a comment like **<!-- header -->**, **<!-- nav -->**, etc. staying at the same line, after the tag.

### Input

The input will be read from the console. It will contain a variable number of lines and will end with the keyword "**END**".

### Output

The output is the semantic version of the input HTML. In all converted tags you should **replace multiple spaces** (like **<header style="color:red">**) with a single space and remove excessive spaces at the end (like **<footer >**). See the examples.

### Constraints

* Each line from the input holds either an HTML **opening tag** or an HTML **closing tag** or HTML **text content**.
* There will be no tags that span several lines and no lines that hold multiple tags.
* Attributes values will always be enclosed in **double quotes** **"**.
* Tags will never have **id** and **class** at the same time.
* The HTML will be **valid**. Opening and closing tags will match correctly.
* **Whitespace** may occur between attribute names, values and around comments (see the examples).
* Allowed working time: 0.1 seconds. Allowed memory: 16 MB.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| <div id="header">  </div> <!-- header -->  END | <header>  </header> |
| <div style="color:red" id="header">  </div> <!-- header -->  END | <header style="color:red">  </header> |
| <div class="header" style="color:blue">  </div> <!-- header -->  END | <header style="color:blue">  </header> |
| <div align="left" id="nav" style="color:blue">  <ul class="header">  <li id="main">  Hi, I have id="main".  </li>  </ul>  </div> <!-- nav -->  END | <nav align="left" style="color:blue">  <ul class="header">  <li id="main">  Hi, I have id="main".  </li>  </ul>  </nav> |
| <p class = "section" >  <div style = "border: 1px" id = "header" >  Header  <div id = "nav" >  Nav  </div> <!-- nav -->  </div> <!--header-->  </p> <!-- end paragraph section -->  END | <p class = "section" >  <header style = "border: 1px">  Header  <nav>  Nav  </nav>  </header>  </p> <!-- end paragraph section --> |