



Lab Sheet 5

Operating Systems

C Programming in Linux

Guidelines

Working with the nano editor can be a little bit difficult, an alternative is the gedit editor. Use the below command to use the editor:

- **gedit file.c**

At the end of each session using the terminal, you would want to keep and save a log file. In order to create a log file of your whole session, the script command is used. At the start of your session use the below command to start logging your session:

- **script output.txt** //or any file name

At the end of the session before you close the terminal, type the below command to complete saving the file:

- **exit**

Using an editor or the cat command to verify your log.

Problem Set

Problem 1 : Lumberjacks

Another tale of lumberjacks? Let see . . .

The lumberjacks are rude, bearded workers, while foremen tend to be bossy and simpleminded.

The foremen like to harass the lumberjacks by making them line up in groups of ten, ordered by the length of their beards. The lumberjacks, being of different physical heights, vary their arrangements to confuse the foremen. Therefore, the foremen must actually measure the beards in centimeters to see if everyone is lined up in order.

Your task is to write a program to assist the foremen in determining whether or not the lumberjacks are lined up properly, either from shortest to longest beard or from longest to shortest.

Input

The input starts with line containing a single integer N , $0 < N < 20$, which is the number of groups to process. Following this are N lines, each containing ten distinct positive integers less than 100.

Output

There is a title line, then one line per set of beard lengths. See the sample output for capitalization and punctuation.

Sample Input

```
3
13 25 39 40 55 62 68 77 88 95
88 62 77 20 40 10 99 56 45 36
91 78 61 59 54 49 43 33 26 18
```

Sample Output

```
Lumberjacks:
Ordered
Unordered
Ordered
```

Problem 2: Valid Identifier

An identifier in Java, C++ and most other programming languages must begin with a letter and then may be followed by any number of letters or digits.

It is possible that underscores (`_`) will also appear, but only in the middle and never two consecutively.

Write a program to read a string and output whether it is a valid or invalid identifier. Each string will be 10 characters or less in size.

Example 1:

Enter id: UAB_HSPC

Answer: UAB_HSPC is a valid identifier

Example 2:

Enter id: a_b_c__2

Answer: a_b_c__2 is not a valid identifier