Shyam's teacher gave him an assignment on word play. Shyam needs to check whether the 2 words have a cycle sequence or not. He needs to perform this N times.

* Word 1 and Word 2 should have the same number of characters. If not, print the statement as, "**Invalid Case. <Word1> and <Word2> are of different lengths**".
* Word 1 and Word 2 should not contain any spaces or special characters. If contains, print the statement as , "**Invalid input. Words must contain only alphabets and numbers**".
* If Word 1 and Word 2 are valid print the output as shown in the sample output.

**Note:**

* In the Sample Input / Output provided, the highlighted text in bold corresponds to the input given by the user, and the rest of the text represents the output.
* Ensure to follow the object-oriented specifications provided in the question description.
* Ensure to provide the names for classes, attributes, and methods as specified in the question description.
* Adhere to the code template, if provided.
* **Please do not use System.exit(0) to terminate the program.**

**Sample Input/Output 1:**

How many word pairs do you want to check

**2**

Enter Word 1 for pair 1

**ClockBell**

Enter Word 2 for pair 1

**BellClock**

BellClock is a word cycle of ClockBell

Enter Word 1 for pair 2

**phonesmart**

Enter Word 2 for pair 2

**smartphone**

smartphoneis a word cycle of phonesmart

***{Explanation:***

Sequence of ClockBell is ClockBellClockBell.

Bellclock is present in the sequence (Clock**BellClock**Bell)

Therefore, BellClock is a word cycle of ClockBell}

**Sample Input/Output2:**

How many word pairs do you want to check

**3**

Enter Word 1 for pair 1

**dryfruit**

Enter Word 2 for pair 1

**greenfruit**

Invalid Case. dryfruit and greenfruit are of different lengths

Enter Word 1 for pair 2

**Fishfry**

Enter Word 2 for pair 2

**fryfish**

fryfish is a word cycle of FishFry

Enter Word 1 for pair 3

**Schoolbus**

Enter Word 2 for pair 3

**Vanschool**

Vanschool is not a word cycle of Schoolbus

**Sample Input/Output 3:**

How many word pairs do you want to check

**1**

Enter Word 1 for pair 1

**band**

Enter Word 2 for pair 1

**bandits**

Invalid Case. band and bandits are of different lengths

**Sample Input/Output 4:**

How many word pairs do you want to check

**1**

Enter Word 1 for pair 1

**black@ook**

Enter Word 2 for pair 1

**bookblack**

Invalid input. Words must contain only alphabets and numbers