Digital Pakistan Speed Programing Competition Online Qualifier Round

Instructions

- Do not open the booklet unless you are explicitly told to do so. You can only read these instructions below.
- If you have any question regarding the problems, seek a clarification from the judges using DOMJudge.
- Before submitting a run, make sure that it is executable via command line. For Java, it must be executable via "javac" and for GNU C++ via "g++". Java programmers need to remove any "package" statements and source code's file name must be the same as of main class. C++ programmers need to remove any getch() / system("pause") like statements.
- Do not attach input files while submitting a run, only submit/attach source code files, i.e., *.java or *.cpp or *.py.
- Language supported: C/C++, Java and Python3
- Source code file name should not contain white space or special characters.
- You must take input from Console i.e.: Standard Input Stream (stdin in C, cin in C++, System.in in Java, stdin in Python)
- You must print your output to Console i.e.: Standard Output Stream (stdout in C, cout in C++, System.out in Java)
- Please, don't create/open any file for input or output.
- Please strictly meet the output format requirements as described in problem statements, because your program will be auto judged by computer. Your output will be compared with judge's output byte-by-byte and not tolerate even a difference of single byte. So, be aware! **Pay special attention to spaces, commas, dots, newlines, decimal places, case sensitivity etc.**
- All your programs must meet the time constraint specified.
- The decision of judges will be absolutely final.

Problem 02: Whisper Codes

Time Limit: 1 sec

In a cybercrime investigation, agents have intercepted a massive chatlog from an underground network. Messages are encoded in everyday conversation and often include secret keywords known as whisper codes. These whisper codes are camouflaged using wildcards (represented by '?') and inconsistent capitalization.

To aid the investigation, you must build a system that finds all occurrences of a given pattern in the chatlog. A match is valid if:

- It is case-insensitive
- Each wildcard ' ?' in the pattern can match any single character

Input Format

- The first line contains a string chatlog with a given length c ($1 \leq c \leq 10^6$), the intercepted conversation.
- The second line contains a string pattern for length s ($1 \leq s \leq 10^4$), which may include lowercase or uppercase letters and multiple or no '?' wildcards.

Both strings may contain only English letters (a–z, A–Z) and the wildcard '?' in the pattern.

Output Format

- On the first line, print the number of matches found.
- On the second line, print the starting indices (0-based) of each match in chatlog, separated by spaces. If no match is found, print an empty line.

Sample input	**Sample Output**
HelloRedFineHelloRed9ineHelloRedline Red?ine	3 5 17 29
ThereIsNoSecret hidden	0