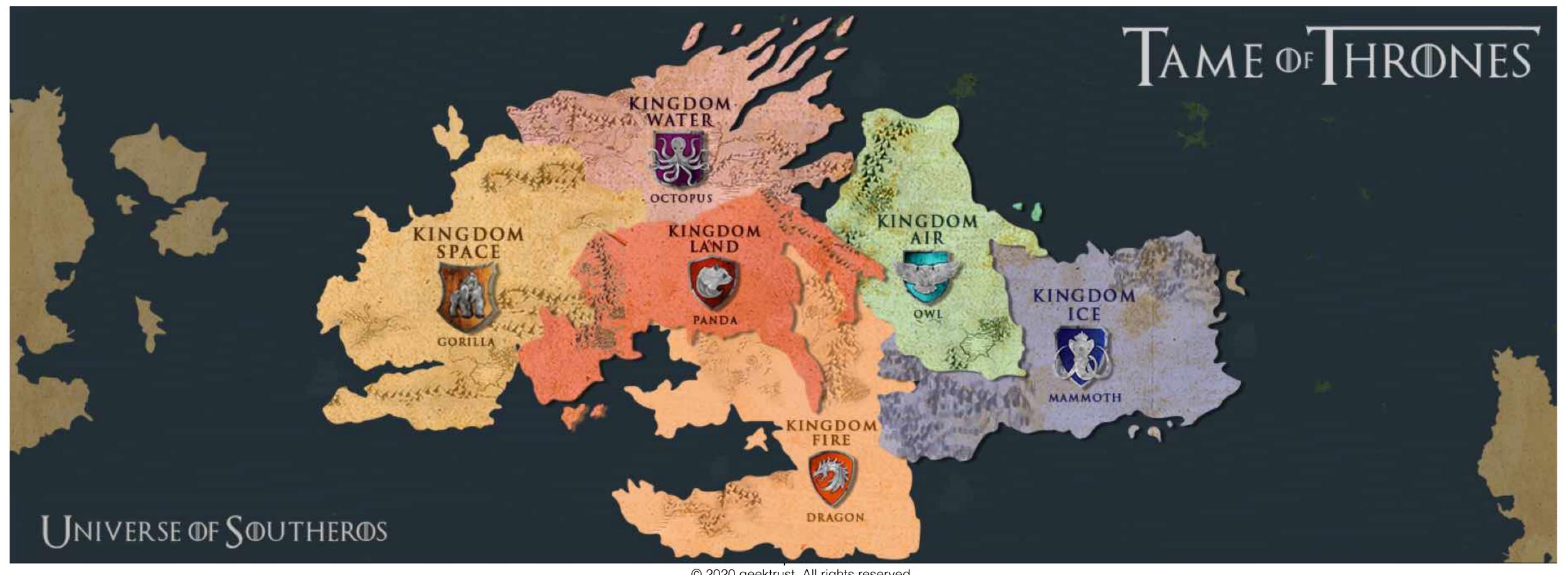
Problem Context

There is no ruler in the universe of Southeros and pandemonium reigns. Shan, the gorilla king of the Space kingdom wants to rule all Six Kingdoms in the universe of Southeros. He needs the support of 3 more kingdoms to be the ruler.



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A golden crown

Each kingdom has an animal emblem and Shan needs to send a message with the animal in the message to win them over.

SPACE emblem - Gorilla, LAND emblem - Panda, WATER emblem - Octopus, ICE emblem - Mammoth, AIR emblem - Owl, FIRE emblem - Dragon.



Your coding challenge is to have King Shan send secret message to each kingdom and win them over.

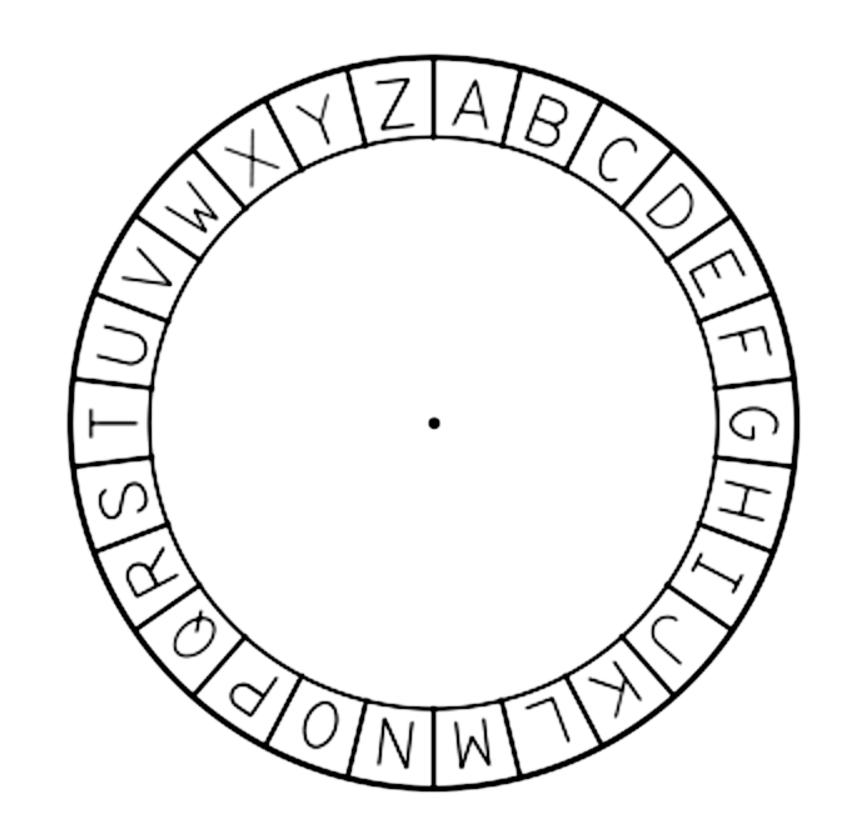
Once he wins 3 more kingdoms, he is the ruler! The secret message needs to contain the letters of the animal in their emblem. For example, secret message to the Land kingdom (emblem: Panda) needs to have the letter 'p','n','d' at-least once and 'a' at-least twice. If he sends "ahdvvnxxxautup" to the Land kingdom, he will win them over.

King Shan wants to make sure his secret message is not found by his enemies easily. So he decides to use the oldest of the ciphers 'Seasar cipher'. A cipher is a type of secret code, where you swap the letters around so that no-one can read your message.

To make the secret message encrypted, King Shan uses a secret key, which is the number of characters in the emblem. If King Shan wants to send a message to kingdom Air, he uses the number 3 as the cipher key, as emblem 'owl' has 3 characters. So, to encrypt the letter 'a', just move 3 letters clockwise on the message wheel, which will give the letter 'd'.

So if King Shan, sends the message "rozo" to Air, King Shan will receive the allegiance from Air. As "rozo" will decrypt to "olwl" and these letters contain the emblem characters 'o', 'w', 'l'.

If King Shan wants to send a message to kingdom Land, he uses the number 5 as the cipher key, as emblem 'panda' has 5 characters. To encrypt the letter 'a', just move 5 letters clockwise on the message wheel, which will give you the letter 'f'.



Sample input & output

Your program should take the location to the test file as parameter. Input needs to be read from a text file, and output should be printed to the console.

Input Format

KINGDOM_1 SECRET_MSG_TO_KINGDOM_1
KINGDOM_2 SECRET_MSG_TO_KINGDOM_2
...
KINGDOM_N SECRET_MSG_TO_KINGDOM_N

Sample Input

AIR ROZO
LAND FAIJWJSOOFAMAU
ICE STHSTSTVSASOS

Message send by Space Kingdom to other kingdoms

Output Format

RULER ALLY_KINGDOM_1, ALLY_KINGDOM_N

Sample Output

SPACE AIR LAND ICE

More sample input output scenarios.

Please stick to the Sample input output format as shown. This is very important as we are automating the correctness of the solution to give you a faster evaluation. You can find some sample input output files <u>here</u>.

Sample Input 1

LAND FDIXXSOKKOFBBMU
ICE MOMAMYTMTMHTM
WATER SUMMER IS COMING
AIR OWLAOWLBOWLC
FIRE AJXGAMUTA

Message send by Space Kingdom to other kingdoms

Sample Input 1



Sample Output 1

SPACE LAND ICE FIRE

Ruler Kingdom (SPACE) and its allies

Sample Output 1

NONE

SPACE Kingdom did not get enough allies