

Predikly Coding Test

Ip-Dip-Sky-Blue

You are working as a servant to Queen Glados and have been for many years. She's very strict to all her servants, working you for very long hours on seemingly meaningless tasks and doesn't let you leave her palace for any reason.

Over time you've been noticing something strange about her behaviour, in that she can't seem to be able to make a decision between anything without using a rhyme to do so. For example, when deciding what cake to have with her tea she would get her chefs to form a circle around her with each of their creations and would then start to recite the following rhyme whilst pointing at each person clockwise in turn as each word is spoken:

"Ip dip sky blue, who's it not you"

Once she finishes this rhyme, the person she is pointing at is then dragged away, before she then recites the same rhyme again starting with the next person clockwise in the circle, again eliminating the person she points at as the last word in her rhyme is spoken. This process continues until there is just one person left, who is still dragged away but not before she takes their cake.

This year she's celebrating an important birthday, and as part of her celebrations she's decided to pardon just one of her servants, who will then be free to leave the palace and will be paid enough for them and their family to live comfortably for the rest of their lives.

This could finally be your way out! With your background in software development you've decided to create a tool that will help you work out what position in the circle you should stand to be certain of the prize, however there's only an hour to go before she gathers you all together to start...

The Details

She always starts the game at the same position, which we'll call position 1

Positions are numbered clockwise in turn

She always continues clockwise as each word of the rhyme is spoken

You don't know how many people are in the circle until you're in the room

You've noticed recently that her rhymes have begun to change...

Example

If there are 5 people in the circle and her 'rhyme' is 2 words long ("You're out!"), your starting position to win the game would be position 3