

Strings and Pigeon Messages

Strings are sequences of characters. In many programming languages, strings are implemented as an array of characters, and you can access each character as you would any value in an array.



“ONLY TWENTY LETTERS?” ASKED Ann. The limit seemed ridiculous. Who had ever heard of a pigeon-carrier message with a length limit?

“Yes,” confirmed Guelph’s pigeon master. “We don’t have the kingdom’s strongest pigeons here. We need to be careful about the weight of the messages.”

“But twenty letters is so short,” objected Ann.

“It’s actually a twenty character limit,” clarified the pigeon master. “Spaces count toward your total. So does punctuation.” He laid out a tiny rectangle of parchment on the counter. It had twenty tiny gray squares. Each square was large enough to hold a single character.

“I suppose we could send for a stronger pigeon,” offered the pigeon master. “It might take a while, but we’ve done it before. I hear the castle has pigeons that can carry multiple pages of information. Can you imagine that?” He smiled wistfully and looked out the window. Ann had never seen a case of pigeon envy this bad.

Ann shrugged. Truthfully, twenty characters would be more than enough. She had yet to find any useful information about

the darkness. This message was a courtesy to her father; she had promised regular updates.

Without a good reason to argue for a longer message, Ann set about filling in the tiny squares: “No progress. -Ann.” Seventeen letters.

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Ann took a moment to consider where she could add more information. She could strip out the punctuation, but that would save her only two characters. Anyway, she had nothing more to say.

She paid the pigeon master and watched him attach the message to the pigeon’s leg. The bird lethargically flapped away, barely clearing the windowsill. Ann briefly wished that she could follow the pathetic bird back to the castle. Instead, she left the communications office and continued on her quest.

As prescribed by Sir Galwin’s algorithm, Ann needed to find more information. She had no leads and her recent attempts to consult Dr. Conjunctione, Dr. Whileton, and now Dr. Iterator had failed miserably. In fact, none of the scholars she had visited could provide any assistance. They had all been too busy with “vital problems” to even speak with her. She needed some clue—any clue. So, despite her deep misgivings, she resolved to consult the Oracle of New Atlantis.