**Algorithms**

**String Algorithm – Rabin-Karp or Karp-Rabin**

[Assignments]

**1. "The Enigmatic Glyphs"**

Story:

Ancient glyphs, shrouded in mystery, were believed to hold the key to unlocking long-forgotten knowledge. The glyphs, when arranged in a specific sequence, revealed hidden wisdom. Explorers sought to decipher this sequence using the Rabin-Karp algorithm.

Task:

Create a program that deciphers the sequence of glyphs using the Rabin-Karp algorithm. Provide the sequence if decipherable; else, return "Sequence remains a mystery."

**2. "The Lost Manuscript"**

Story:

A lost manuscript contained a coded passage thought to reveal the location of a mythical artifact. The coded text was encrypted in a unique sequence. Seekers aimed to uncover this sequence using the Rabin-Karp algorithm to decipher the hidden passage.

Task:

Implement a program to decode the encrypted sequence from the manuscript using the Rabin-Karp algorithm. Return the decoded passage if deciphered; otherwise, return "Code remains unsolved."

**3. "The Cryptic Map"**

Story:

Legends spoke of a cryptic map engraved with a sequence that led to a hidden treasure. The sequence was critical to deciphering the map. Adventurers attempted to unlock this sequence using the Rabin-Karp algorithm to unveil the treasure's location.

Task:

Develop a program to decode the sequence engraved on the cryptic map using the Rabin-Karp algorithm. Return the decoded sequence if successful; else, return "Map remains indecipherable."

**4. "The Mystic Runes"**

Story:

Mystic runes inscribed on ancient artifacts were believed to reveal the path to an otherworldly realm. The correct arrangement of these runes formed a hidden sequence. Researchers aimed to decode this sequence using the Rabin-Karp algorithm to access the mystical realm.

Task:

Write a program to decode the sequence of runes using the Rabin-Karp algorithm. Provide the decoded sequence if found; otherwise, return "Runes defy interpretation."

**5. "The Sealed Portal"**

Story:

An encrypted sequence guarded the entrance to a secret portal leading to a parallel dimension. Only the correct sequence could unlock the portal. Investigators utilized the Rabin-Karp algorithm to decode this sequence and open the portal.

Task:

Develop a program to decode the encrypted sequence using the Rabin-Karp algorithm. Return the sequence if the portal is accessible; otherwise, return "Portal remains sealed."

**6. "The Prophecy of Ages"**

Story:

A prophecy written in a mysterious sequence foretold of impending cataclysmic events. Scholars sought to interpret this sequence to avert disaster. They employed the Rabin-Karp algorithm to decode the prophecy and prevent the catastrophe.

Task:

Design a program to decipher the sequence of the prophecy using the Rabin-Karp algorithm. Provide the decoded message if successful; otherwise, return "Prophecy remains enigmatic."

**7. "The Celestial Code"**

Story:

In a celestial library, ancient texts were encoded with a celestial sequence believed to grant immense wisdom. Scholars aimed to decipher this sequence using the Rabin-Karp algorithm to unlock the cosmic knowledge hidden within the texts.

Task:

Develop a program to decode the celestial sequence using the Rabin-Karp algorithm. Return the decoded sequence if deciphered; else, return "Celestial knowledge remains elusive."

**8. "The Mystic Symbols"**

Story:

Mystic symbols etched on sacred stones were rumored to reveal the path to an ancient sanctuary. The correct arrangement of these symbols formed a secret sequence. Seekers sought to decode this sequence using the Rabin-Karp algorithm to access the sanctuary.

Task:

Write a program to decode the sequence of mystic symbols using the Rabin-Karp algorithm. Provide the decoded sequence if discovered; otherwise, return "Sanctuary remains hidden."

**9. "The Enchanted Scroll"**

Story:

An enchanted scroll contained a hidden prophecy written in a cryptic sequence. The correct interpretation of this sequence could alter the course of history. Researchers endeavored to decode this sequence using the Rabin-Karp algorithm to understand the prophecy.

Task:

Create a program to decipher the cryptic sequence from the enchanted scroll using the Rabin-Karp algorithm. Return the decoded prophecy if unveiled; else, return "Prophecy remains veiled."

**10. "The Ancient Matrix"**

Story:

An ancient matrix, embedded with a sequence, was believed to hold the essence of ancient wisdom. The correct arrangement of the matrix's elements formed the secret sequence. Explorers aimed to decode this sequence using the Rabin-Karp algorithm to access the wisdom within.

Task:

Develop a program to decode the sequence from the ancient matrix using the Rabin-Karp algorithm. Return the decoded sequence if discovered; otherwise, return "Matrix keeps its secrets."

**Explanation:**

In "The Ancient Matrix," the story revolves around an ancient matrix that holds a secret sequence believed to encapsulate ancient wisdom. This matrix is essentially a grid-like structure, and the correct arrangement of its elements forms the hidden sequence. Explorers and seekers of knowledge embark on a quest to decode this sequence using the Rabin-Karp algorithm, aiming to access the hidden wisdom contained within the matrix.

Story:

Imagine an ancient artifact—an enigmatic matrix crafted by a lost civilization. This matrix, adorned with symbolic elements arranged in rows and columns, has long been shrouded in mystery. Legend holds that within this arrangement lies a sequence—an encrypted code of paramount importance, believed to harbor the essence of ancient wisdom.

Adventurers, scholars, and historians, drawn by tales of its significance, converge on this relic. Their quest: to decipher the concealed sequence within the matrix. Yet, the arrangement seems unfathomable—a puzzle waiting to be solved. Amidst the cryptic arrangement, the hope of unveiling the sequence through the Rabin-Karp algorithm flickers—a potential key to unlocking the matrix's secrets.

Task:

The task at hand involves crafting a program that harnesses the power of the Rabin-Karp algorithm to decode the hidden sequence residing within the ancient matrix. Should the program succeed in deciphering the sequence based on the matrix's elements, it will return the decoded sequence—a revelation of the ancient wisdom concealed within.

However, decoding this sequence is no easy feat. The program might encounter challenges due to the complexity of the matrix and the cryptic nature of the arrangement. If the program cannot discern the sequence using the Rabin-Karp algorithm, it will convey that the "Matrix keeps its secrets," signifying that the ancient wisdom remains inaccessible for now.

The allure of unraveling this mystery, of deciphering the sequence encoded within the matrix, propels individuals into an adventurous pursuit—using algorithmic prowess to unlock the wisdom hidden within this ancient relic.