**Algorithms**

**String Algorithm - MANACHER**

[Assignments]

**1. The Magical Mirror:**

Scenario:

In a mystical land, there exists a legendary mirror with peculiar properties. This mirror has a sequence of symbols engraved on its surface. People believe that the mirror reflects the longest palindromic sequence of symbols. You're a skilled traveller who must decode the mirror's message by implementing an algorithm that identifies the longest palindromic substring.

Task:

Implement an algorithm to find the longest palindromic substring engraved on a mystical mirror that reflects this sequence.

**2. The Secret Engravings:**

Scenario:

In an ancient cave, inscriptions cover the walls. Legend has it that these inscriptions hold a secret message, concealed within the longest palindromic sequence of symbols. The goal is to decipher the hidden message encoded in these inscriptions by using Manacher's Algorithm to uncover the longest palindromic substring.

Task:

Decode an ancient cave's inscriptions by utilizing Manacher's Algorithm to reveal the hidden longest palindromic sequence that holds a secret message.

**3. The Mystic Riddle:**

Scenario:

A riddle has baffled adventurers for centuries. It speaks of a sacred string hidden within an enigmatic prophecy. The string, when interpreted by the revered Manacher's Algorithm, reveals the answer to a puzzling question and unlocks the next stage of the journey.

Task:

Solve a riddle hidden within a sacred string using Manacher's Algorithm to unveil the longest palindromic sequence, unlocking the next stage of the quest.

**4. The Chrono-Cryptex:**

Scenario:

In a time-traveling quest, an ancient cryptex has symbols arranged in a sequence. The adventurers need to unravel the longest sequence of symbols that form a palindromic pattern to activate the cryptex. The cryptex holds the key to the next era, but only Manacher's Algorithm can reveal the sequence that unlocks its secrets.

Task:

Decrypt a time-traveling cryptex by identifying the longest palindromic sequence among the symbols, activating the cryptex's hidden secrets.

**5. The Whispering Runes:**

Scenario: A set of ancient runes is believed to hold the key to understanding a forgotten language. Legends suggest that within these runes lies the longest sequence forming a palindrome. By implementing Manacher's Algorithm, adventurers can decode this language and unveil the lost wisdom hidden within.

Task: Decipher ancient runes containing a forgotten language by using Manacher's Algorithm to reveal the longest palindromic sequence embedded within them.

**6. The Sorcerer's Scroll:**

Scenario:

Within the scrolls of a powerful sorcerer lies a prophecy written in a sequence of mystical symbols. It's rumoured that deciphering the longest palindromic sequence hidden in these scrolls will reveal the prophecy's true meaning. Travelers must use Manacher's Algorithm to uncover this vital revelation.

Task:

Unravel the meaning of a powerful sorcerer's prophecy written in mystical symbols. Use Manacher's Algorithm to identify the longest palindromic sequence in the scrolls.

**7. The Enchanted Tapestry:**

Scenario:

A tapestry woven with intricate symbols is said to possess magical properties. It's believed that the longest palindromic sequence hidden within the tapestry holds the secret to eternal prosperity. Adventurers seek to find this sequence using Manacher's Algorithm to bring prosperity to their realm.

Task:

Find the longest palindromic sequence hidden within an enchanted tapestry, believed to hold the secret to eternal prosperity using Manacher's Algorithm.

**8. The Guardian's Inscriptions:**

Scenario:

Carved on the walls of an ancient temple are inscriptions believed to be a message from the temple's guardians. Legend has it that deciphering the longest palindromic sequence within these inscriptions will grant wisdom and protection to the decipherer. Travelers must apply Manacher's Algorithm to reveal this sequence.

Task:

Decode inscriptions from an ancient temple, said to bring wisdom and protection upon revealing the longest palindromic sequence through Manacher's Algorithm.

**9. The Astral Codex:**

Scenario:

Among the stars, a celestial codex contains a sequence of star patterns representing cosmic secrets. It's said that the longest sequence forming a starry palindrome holds the key to understanding the universe's mysteries. Astral navigators aim to unveil this sequence using Manacher's Algorithm.

Task:

Navigate the stars and uncover the longest palindromic sequence in a celestial codex, which might hold the key to cosmic truths using Manacher's Algorithm.

**10. The Oracle's Glyphs:**

Scenario:

An oracle has etched cryptic glyphs onto stone tablets, signifying ancient truths. The oracle's prophecy foretells that within the longest palindromic sequence lies the answer to an age-old question. Seekers must employ Manacher's Algorithm to unlock this prophecy and gain enlightenment.

Task:

Decrypt cryptic glyphs on stone tablets to unveil the longest palindromic sequence, revealing the oracle's prophecy, utilizing Manacher's Algorithm.