

Laboratory Activities: List/Array with AVENGERS

CP020001 Computer Programming
Khon Kaen University

(10 Points) Python List/Array

Assignment: Exploring Avengers Movie Characters with Nested Lists

Motivation:

The Marvel Cinematic Universe (MCU) has captivated audiences worldwide with its iconic Avengers characters. This assignment aims to provide students with hands-on experience in working with nested lists to organize and analyze information about these beloved characters.

Objective:

The objective of this assignment is to enhance students' understanding of Python list operations by manipulating and analyzing data related to Avengers movie characters using nested lists.



Questions:

- **1. Create a Nested List for Avengers Characters:**
 - Design a nested list representing at least five Avengers characters. Include detailed information such as the character's name, superhero role, age, and the year they made their debut in the movies.
 - Tony Stark (Iron Man) is 45 years old and made his debut in 2008.
 - Natasha Romanoff (Black Widow) is 35 years old and made her debut in 2010.
 - Thor Odinson (Thor) is a god-like character, approximately 1500 years old, and made his debut in 2011.
 - Steve Rogers (Captain America) is 100 years old (due to the Super-Soldier Serum) and made his debut in 2011.
 - Bruce Banner (Hulk) is 49 years old and made his debut in 2012.
- **2. Extract Information about Superheroes:**
 - Write Python code to print the names of all Avengers superheroes from the provided nested list.
- **3. Filter Characters by Movie Debut Year:**
 - Create a new list containing only those characters whose movie debut was after the year 2010.
- **4. Update Age of Thor:**
 - Thor is a god, so let's update his age to represent eternity. Write Python code to search for Thor in the list and modify his age to '**Eternal**' using a loop.
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- **5. Add a New Character:**
 - Introducing a new Avenger, 'Wanda Maximoff,' with her superhero role as 'Scarlet Witch,' age 32, and movie debut year 2015.

For each question, ensure that you utilize appropriate loop constructs where needed, and provide solutions accordingly.