**Assignment 1**

Read the statement carefully and answer the question.

Note: The assignment solution should not be more than 2 pages.

### **Hypothetical Case Study: Image Processing for Medical Diagnosis**

**Scenario:** A medical imaging center needs to process a large volume of MRI images for cancer detection. The current sequential processing is time-consuming and limits the efficiency of diagnosis.

### **Assignment Questions**

**1. Problem Analysis:**

* **Question:** Describe the key computational challenges in processing MRI images for cancer detection. What makes this task suitable for parallel computing?
* **Question:** Identify the potential bottlenecks and limitations of sequential processing in this context.
* **Question:** What would be the most suitable parallel approach from Flynn's taxonomy for processing MRI images for cancer detection? Describe the limitations of the other unfitting approaches.