Company: Game Theory
Level 1 Screening Assignment

Problem Statement:

You are provided with a dataset from a badminton game, consisting of two folders and an image of the court. Your task is to classify the player images into individual player classes. Details of the folders are as follows:

- **top_two_players**: Contains images of the two players playing on the top half of the court.
- **bot_two_players**: Contains images of the two players playing on the bottom half of the court.
- **court_image**: This is the background image of the court, which you can use to model the background color.

Access the data here: Dataset Link

Objective:

You need to segregate the images from these two folders into individual player classes (four players in total).

Guidelines:

- You can use **basic OpenCV techniques** or **traditional Computer Vision/Deep Learning approaches** to complete this task.
- The total execution time of the code should not **exceed 2 minutes.**
- Upon running the command `./execute.sh`, the code should:
    1. Create an `output` folder.
    2. Inside the `output` folder, there should be **four subfolders**, each containing all the images for one player.
- The repository should include a **README.md** explaining the code usage.
- The **report.pdf holds 50% of the total weight** and should include the following:
    - Your ideas and thought process for solving the task.
    - A detailed explanation of the implementation approaches you used (1 or 2 approaches). You may also propose multiple ideas for solving the problem, even if they were not implemented.
- **Optimize your code** as much as possible, keeping in mind that the final solution is intended to run in real-time.

Submission:

- Please use this repository as a template and adhere to the structure outlined in it: Player Segregation Repository.
- Zip your submission folder and upload it on your google drive and share the link.
- The Submission folder must contain:
    1. The **code**.
    2. A **README.md** file explaining how to run the code.
    3. Your **college id** in the submission README.md
    4. A **report.pdf** detailing your ideas and implementation.
    5. Your **resume**
- **Plagiarism will be checked** and is strictly prohibited.

Note:
Even if you are new to Computer Vision, don't worry! Take your time and focus on presenting your ideas and approaches clearly. You will be evaluated on all aspects, so this is your chance to show your problem-solving skills!