PAGE REPLACEMENT ALGORITHM

SPOT QUESTION

Develop a **program** to implement:

1. FIFO
2. LRU
3. Optimal

For the reference string:

1, 2, 3, 4, 2, 1, 5, 2, 4, 5, 3, 2, 5, 1, 2, 3, 4, 1, 5, 2, 3, 4, 2, 1, 5.

The program must:

- Accept the reference string and number of frames from the user.
- Simulate all three page replacement algorithms.
- Display the frame contents after every page reference.
- Count page hits and page faults.
- Calculate the page-fault ratio.
- Compare the three algorithms.
- Display which algorithm produces the **minimum number of page faults** for the given input.
- Test the program again by increasing the number of frames to **5** and observe the change in page faults.