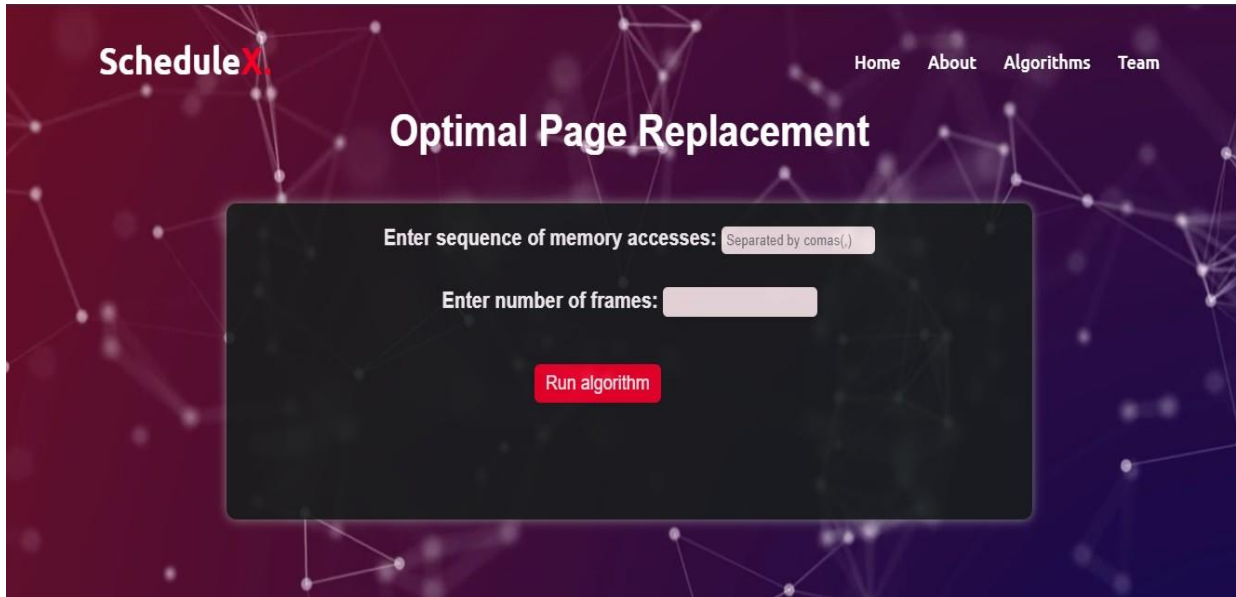


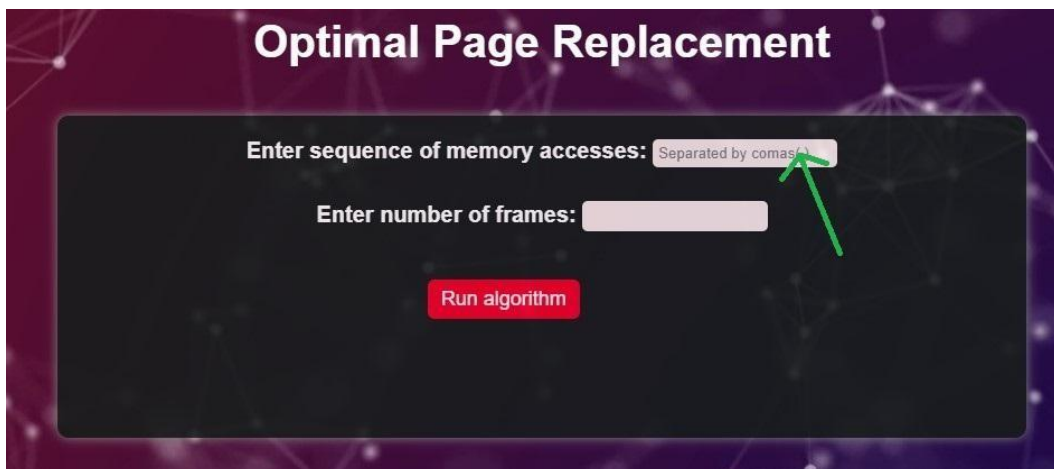
Welcome to the Optimal Page Replacement Algorithm Simulator! This simulator allows you to simulate the behaviour of the Optimal Page Replacement Algorithm, which is used to determine which page to evict from memory when a page fault occurs.



The screenshot shows the main interface of the 'ScheduleX' Optimal Page Replacement simulator. The background is a dark purple with a network-like pattern of white dots and lines. At the top left is the 'ScheduleX' logo. At the top right are navigation links: 'Home', 'About', 'Algorithms', and 'Team'. The main title 'Optimal Page Replacement' is centered in a large white font. Below the title is a dark grey rectangular box containing the input fields and a button. Inside this box, the text 'Enter sequence of memory accesses:' is followed by a light grey input field with a placeholder 'Separated by commas(,)'. Below this is the text 'Enter number of frames:' followed by a light grey input field. At the bottom of the box is a red button with the text 'Run algorithm'.

Instructions:

1. Start by entering the sequence of memory accesses into the '**Enter sequence of Memory accesses**' field. The sequence should be comma-separated ONLY.




This screenshot is identical to the one above but includes a green arrow pointing to the input field for 'Enter sequence of memory accesses:'. The arrow originates from the right side of the image and points directly to the light grey input field containing the placeholder text 'Separated by commas(,)'.

2. Then, enter the number of frames into the 'Enter number of frames' field. This should be a single non-negative integer value.

Optimal Page Replacement

Enter sequence of memory accesses:

Enter number of frames: 

Run algorithm

3. After you have entered the sequence and the number of frames, click on the 'Run Algorithm' button to execute the algorithm. The simulator will show a table that displays HIT and MISS for each page.

It will also show the total number of pages, number of page hits and misses, hit ratio and miss ratio.

Enter sequence of memory accesses:

Enter number of frames:

Reset

Frame [1]	7	7	7	7	7	7	7	7	3	3
Frame [2]		2	2	2	2	2	2	2	2	2
Frame [3]			8	8	8	8	8	8	8	8
Frame [4]				6	6	6	6	6	6	6
Frame [5]					1	1	1	1	1	1
Frame [6]						4	4	4	4	4
	Miss	Miss	Miss	Miss	Miss	Miss	Hit	Hit	Miss	Hit

Total number of pages: 11
Number of page hits: 4
Number of page faults: 7
Hit ratio: 36.36%
Miss ratio: 63.64%

4. To start the simulation again with a different sequence and number of frames, click on the 'Reset' button.

Enter sequence of memory accesses: 7,2,8,6,1,4,8,1,3,4,2

Enter number of frames: 6

Reset

Frame [1]	7	7	7	7	7	7	7	7	3	3	3
Frame [2]		2	2	2	2	2	2	2	2	2	2
Frame [3]			8	8	8	8	8	8	8	8	8
Frame [4]				6	6	6	6	6	6	6	6
Frame [5]					1	1	1	1	1	1	1
Frame [6]						4	4	4	4	4	4
	Miss	Miss	Miss	Miss	Miss	Miss	Hit	Hit	Miss	Hit	Hit

Total number of pages: 11
Number of page hits: 4
Number of page faults: 7
Hit ratio: 36.36%
Miss ratio: 63.64%

Note: The Optimal Page Replacement Algorithm is an optimal algorithm for page replacement, as it evicts the page that will not be used for the longest period of time. However, it is not practical to implement in real systems due to the computational overhead required to predict future memory accesses.

Enjoy the simulation and have fun exploring the behavior of the Optimal Page Replacement Algorithm!