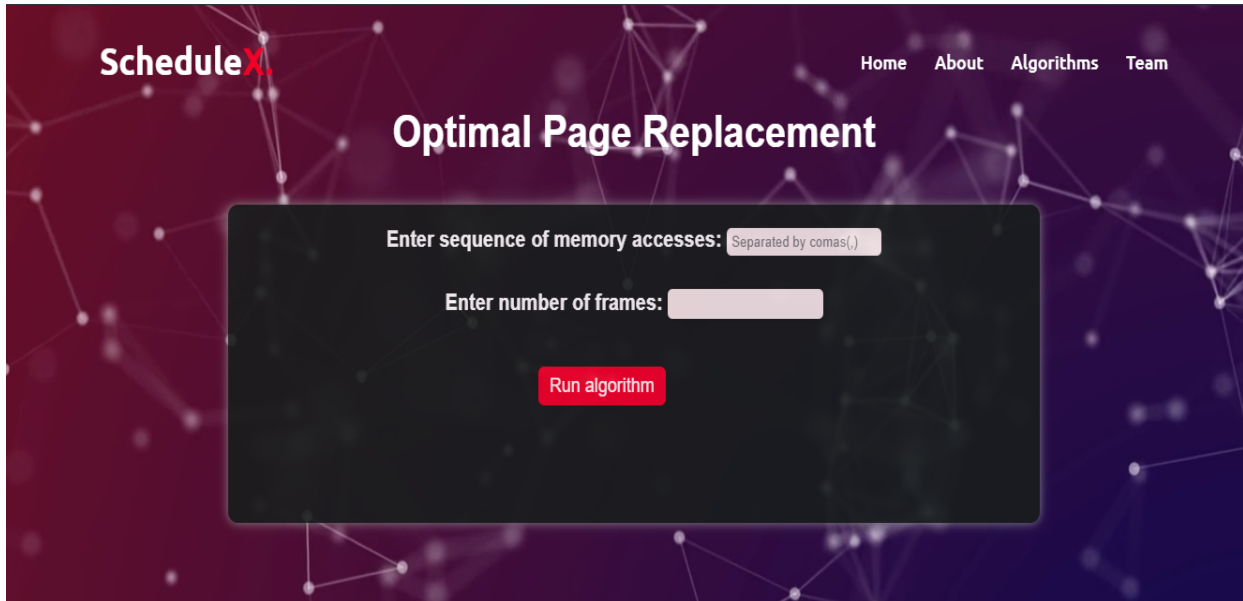


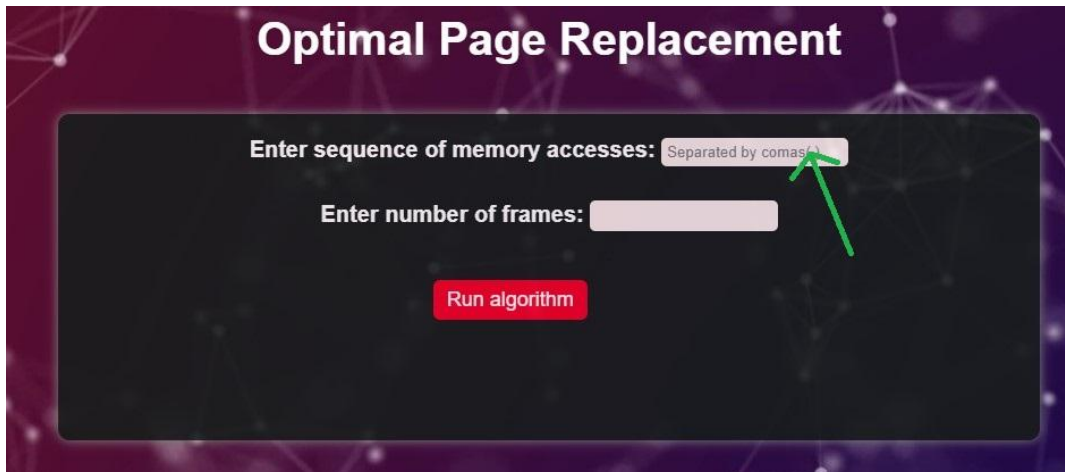
Welcome to the Optimal Page Replacement Algorithm Simulator! This simulator allows you to simulate the behaviour of the Optimal Page Replacement Algorithm, which is used to determine which page to evict from memory when a page fault occurs.



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 comas(,)'. 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 is a close-up screenshot of the input section of the simulator. It shows the title 'Optimal Page Replacement' at the top. Below it, the text 'Enter sequence of memory accesses:' is followed by a light grey input field containing the placeholder 'Separated by comas(,)'. A green arrow points to this input field. Below this is the text 'Enter number of frames:' followed by a light grey input field. At the bottom is a red button with the text 'Run algorithm'.

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



The image shows a web-based simulator titled "Optimal Page Replacement". It has a dark purple background with a network-like pattern. The main interface is a dark grey rounded rectangle containing two input fields and a button. The first field is labeled "Enter sequence of memory accesses:" and contains the text "7,2,8,6,1,4,8,1,3,4,2". The second field is labeled "Enter number of frames:" and contains the number "6". A green arrow points from the right towards the "6" in the second field. Below these fields is a red button with the text "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: 7,2,8,6,1,4,8,1,3,4,2

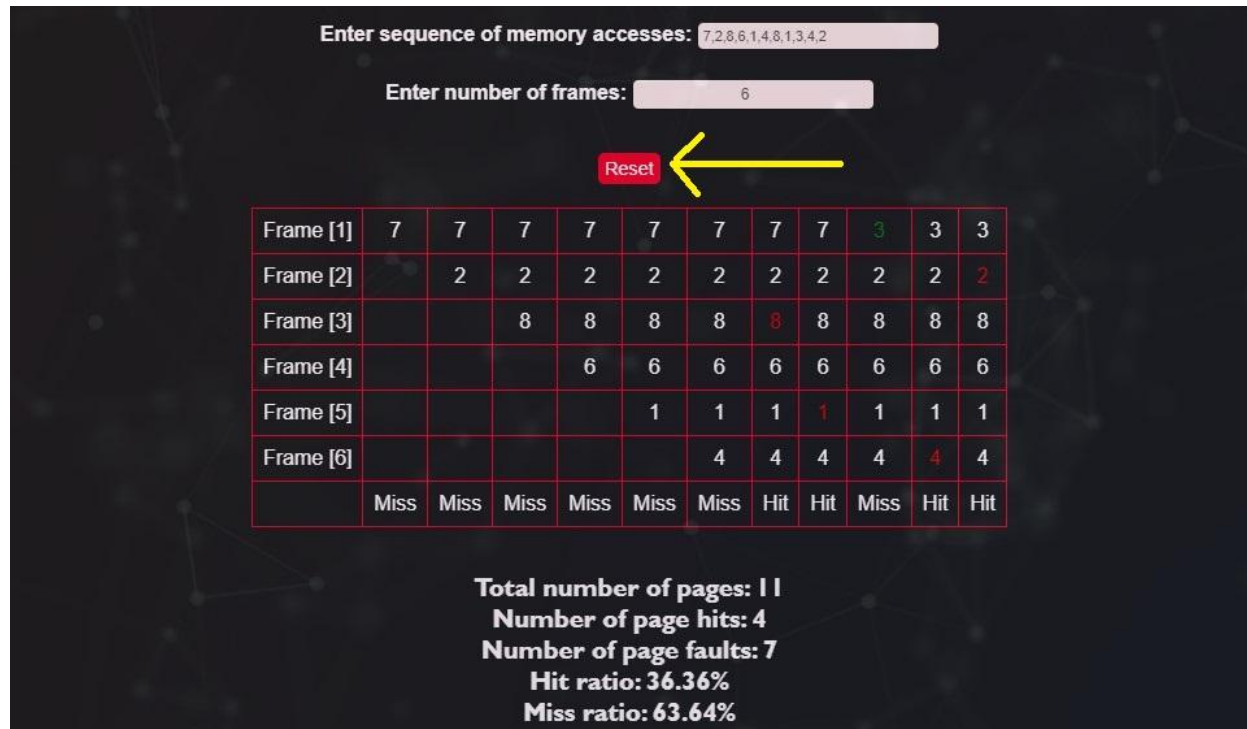
Enter number of frames: 6

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%

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



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 behaviour of the Optimal Page Replacement Algorithm!