| push_swap with linked-lists       |         |      | SWAP command |      |  |                    |          |        |      |
|-----------------------------------|---------|------|--------------|------|--|--------------------|----------|--------|------|
| beggining                         |         |      |              |      | 4th  |                    |          |        |      |
| beggiiiiig                        |         | prev | node         | next | node_to_second->r  | rev = node         | to firet |        | b    |
|                                   | *stack  | NULL | a            | b    |  | >next = third_node |          |        | С    |
|                                   | Stack   | a    | b            | С    | node_to_second->i  | prev               |          | node   |      |
|                                   |         | b    | С            | NULL | node to second   | *stack             | b        | а      | C    |
| 1st                               |         | D    | U            | NOLL | node_to_first  | Stack              | a        | b<br>b | С    |
| node_to_first = (*stack)->next    |         |      |              |      |  |                    |          | -      | NULL |
| node_to_iiist = ( stack)->next    |         | prov | node         | next | third_node  5th  |                    | а        | С      | NOLL |
|                                   | *ataal: | prev |              |      |  |                    |          |        |      |
| undo to finat                     | *stack  | NULL | a            | b    | node_to_first->next = node_to_second<br>node to first->prev = NULL |                    |          |        | a    |
| node_to_first                     |         | а    | b            | C    | node_to_first->prev  | = NULL             |          |        | NULL |
|                                   |         | b    | С            | NULL |  | 4 1                | prev     | node   |      |
| 2nd                               |         |      |              |      | node_to_second   | *stack             | b        | a      | С    |
| node_to_second = *stack           |         |      |              |      | node_to_first  |                    | NULL     | b      | а    |
|                                   |         | prev | node         | next | third_node   |                    | а        | С      | NULL |
| node_to_second                    | *stack  | NULL | а            | b    | 6th  |                    |          |        |      |
|                                   |         | а    | b            | С    | *stack = node_to_first   |                    |          | b      |      |
|                                   |         | b    | С            | NULL |  |                    | prev     | node   | next |
| 3nd                               |         |      |              |      | node_to_second   |                    | b        | а      | С    |
| if (*stack)->next->next           |         |      |              |      | node_to_first  | *stack             | NULL     | b      | а    |
| third_node = (*stack)->next->next |         |      |              | С    | third_node   |                    | а        | С      | NULL |
| third_node->prev = node_to_second |         |      |              | а    | RESULT:  |                    |          |        |      |
|                                   |         | prev | node         | next |  |                    | prev     | node   | next |
| node_to_second                    | *stack  | NULL | а            | b    | node_to_first  | *stack             | NULL     | b      | а    |
| node_to_first                     |         | а    | b            | С    | node_to_second   |                    | b        | а      | С    |
| third node                        |         | а    | С            | NULL | third_node   |                    | а        | С      | NULL |