**Question 6 [12 marks]:**

The following is a sequence of six numbers:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 0 | 1 | 2 | 3 | 4 | 5 |
| 14 | 71 | 52 | 25 | 36 | 17 |

Use Selection Sort to sort the seven numbers in the sequence into **descending** order. Show the result of each step by showing the whole sequence in a new line with sorted numbers underlined.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | 0 | 1 | 2 | 3 | 4 | 5 |
|  | 14 | 71 | 52 | 25 | 36 | 17 |
| Step 1 | 71 | 14 | 52 | 25 | 36 | 17 |
| Step 2 | 71 | 52 | 14 | 25 | 36 | 17 |
| Step 3 | 71 | 52 | 36 | 25 | 14 | 17 |
| Step 4 | 71 | 52 | 36 | 25 | 14 | 17 |
| Step 5 | 71 | 52 | 36 | 25 | 17 | 14 |
| Step 6 | 71 | 52 | 36 | 25 | 17 | 14 |
| Final Result | 71 | 52 | 36 | 25 | 17 | 14 |