SORTING ZEROS WITH THE REST OF THE ELEMENTS:

AIM: ZEROS TO BE PUT AT THE END

1. startIndex = P = 0
2. endIndex = Q = length -1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| INDEX | 0 | 1 | 2 | 3 | 4 | 5 |
| VALUE | 1 | 0 | 9 | 0 | 7 | 1 |
| VAR | P |  |  |  |  | Q |
| P IS NOT ZERO. SHIFT P BY 1.  Q IS NOT ZERO. Q REMAINS AT SAME INDEX. | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| INDEX | 0 | 1 | 2 | 3 | 4 | 5 |
| VALUE | 1 | 0 | 9 | 0 | 7 | 1 |
| VAR |  | P |  |  |  | Q |
| P IS ZERO.  SWAP P AND Q | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| INDEX | 0 | 1 | 2 | 3 | 4 | 5 |
| VALUE | 1 | 1 | 9 | 0 | 7 | 0 |
| VAR |  | P |  |  |  | Q |
| P IS NOT ZERO. SHIFT P BY 1.  Q IS ZERO. SHIFT Q BY 1 | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| INDEX | 0 | 1 | 2 | 3 | 4 | 5 |
| VALUE | 1 | 1 | 9 | 0 | 7 | 0 |
| VAR |  |  | P |  | Q |  |
| P IS NOT ZERO. SHIFT P BY 1.  Q IS NOT ZERO. Q REMAINS AT SAME INDEX | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| INDEX | 0 | 1 | 2 | 3 | 4 | 5 |
| VALUE | 1 | 1 | 9 | 0 | 7 | 0 |
| VAR |  |  |  | P | Q |  |
| P IS ZERO. SWAP P AND Q | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| INDEX | 0 | 1 | 2 | 3 | 4 | 5 |
| VALUE | 1 | 1 | 9 | 7 | 0 | 0 |
| VAR |  |  |  | P | Q |  |
| P IS NON-ZERO. P CANNOT BE SHIFTED SINCE P!=Q | | | | | | |

PROCESS TERMINATED.

ZEROS SEPERATED SUCCESFULLY.

LOGIC:

IF(P IS ZERO) -> SWAP P AND Q

ELSE(P IS NON ZERO) -> P++

IF(Q IS ZERO) -> Q--