Suppose we have an original array of size 26, and are requesting the indicies between i = 5 and j = 19 inclusive

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Index | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| Value | 1 | 3 | 4 | 5 | -1 | 9 | 5 | 5 | 8 | 5 | 0 | 81 | -8 | 26 | 8 | 1 | 3 | 1 | 5 | 5 | 9 | 0 | 9 | 0 | 9 | 11 |
| L\*(i//L) | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 6 | 6 | 6 | 6 | 6 | 12 | 12 | 12 | 12 | 12 | 12 | 18 | 18 | 18 | 18 | 18 | 18 | 24 | 24 |
| L\*(i//L )+L | 6 | 6 | 6 | 6 | 6 | 6 | 12 | 12 | 12 | 12 | 12 | 12 | 18 | 18 | 18 | 18 | 18 | 18 | 24 | 24 | 24 | 24 | 24 | 24 | 30 | 30 |

Pre-Processing

+ all elements

+ all elements

+ all elements

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Index | 0 | 1 | 2 | 3 | 4 | 5 |
| Sum | 21 | 104 | 30 | 28 | 20 | 0 |

+ all elements

+ all elements

+ all elements

Query

Subtract all elements between [j+1, L\*(i//L )+L)

Subtract all elements between [L\*(i//L),i)

|  |  |
| --- | --- |
| Value | 21+104+30+28  -1-3-4-5+1  -9-0-9-0  = 153 |

Example 1)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Index | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Value | -1 | 14 | 13 | 13 | 9 | 1 | 3 | 8 | -2 |
| New Array | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Index | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Value | 1 | 14 | -12 | -5 | 9 | 1 | 3 | -1 | -2 |
| New Array | -1 | -1 | 2 | 3 | 3 | 3 | 3 | 7 | 8 |

Example 2)