2、 请计算如下两个向量与矩阵的卷积计算结果。

（1） [ 1 2 3 4 5 4 3 2 1] \*[ 2 0 -2]

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 | 1 | 2 | 3 | 4 | 5 | 4 | 3 | 2 | 1 | 0 | 0 |

|  |  |  |
| --- | --- | --- |
| -2 | 0 | 2 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 | 1 | 2 | 3 | 4 | 5 | 4 | 3 | 2 | 1 | 0 | 0 |

|  |  |  |
| --- | --- | --- |
| -2 | 0 | 2 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 | 1 | 2 | 3 | 4 | 5 | 4 | 3 | 2 | 1 | 0 | 0 |

|  |  |  |
| --- | --- | --- |
| -2 | 0 | 2  =4 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 | 1 | 2 | 3 | 4 | 5 | 4 | 3 | 2 | 1 | 0 | 0 |

|  |  |  |
| --- | --- | --- |
| -2 | 0 | 2 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 | 1 | 2 | 3 | 4 | 5 | 4 | 3 | 2 | 1 | 0 | 0 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 | 1 | 2 | 3 | 4 | 5 | 4 | 3 | 2 | 1 | 0 | 0 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 | 1 | 2 | 3 | 4 | 5 | 4 | 3 | 2 | 1 | 0 | 0 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 | 1 | 2 | 3 | 4 | 5 | 4 | 3 | 2 | 1 | 0 | 0 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 | 1 | 2 | 3 | 4 | 5 | 4 | 3 | 2 | 1 | 0 | 0 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 | 1 | 2 | 3 | 4 | 5 | 4 | 3 | 2 | 1 | 0 | 0 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0 | 0 | 1 | 2 | 3 | 4 | 5 | 4 | 3 | 2 | 1 | 0 | 0 |

|  |  |  |
| --- | --- | --- |
| -2 | 0 | 2  =4 |

|  |  |  |
| --- | --- | --- |
| -2 | 0 | 2 |

|  |  |  |
| --- | --- | --- |
| -2 | 0 | 2 |

|  |  |  |
| --- | --- | --- |
| -2 | 0 | 2  =-4 |

|  |  |  |
| --- | --- | --- |
| -2 | 0 | 2 |

|  |  |  |
| --- | --- | --- |
| -2 | 0 | 2 |

|  |  |  |
| --- | --- | --- |
| -2 | 0 | 2 |

=-2

=-4

=-4

=0

=4

所以最后卷积结果为[ 2 4 4 4 4 0 -4 -4 -4 -4 -2]

=-4

=4

=2