**TEST CASE 1**

| **INPUT** | **OUTPUT** |
| --- | --- |
| **4** | **1 0 0 1** |

**TEST CASE 2**

| **INPUT** | **OUTPUT** |
| --- | --- |
| **6** | **1 0 0 1 0 0** |

**TEST CASE 3**

| **INPUT** | **OUTPUT** |
| --- | --- |
| **9** | **1 0 0 1 0 0 0 0 1** |

**TEST CASE 4**

| **INPUT** | **OUTPUT** |
| --- | --- |
| **11** | **1 0 0 1 0 0 0 0 1 0 0** |

**TEST CASE 5**

| **INPUT** | **OUTPUT** |
| --- | --- |
| **18** | **1 0 0 1 0 0 0 0 1 0 0 0 0 0 0 1 0 0** |

**TEST CASE 6**

| **INPUT** | **OUTPUT** |
| --- | --- |
| **21** | **1 0 0 1 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0** |

**TEST CASE 7**

| **INPUT** | **OUTPUT** |
| --- | --- |
| **25** | **1 0 0 1 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 1** |

**TEST CASE 8**

| **INPUT** | **OUTPUT** |
| --- | --- |
| **44** | **1 0 0 1 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0** |

**TEST CASE 9**

| **INPUT** | **OUTPUT** |
| --- | --- |
| **93** | **1 0 0 1 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0** |

**TEST CASE 10**

| **INPUT** | **OUTPUT** |
| --- | --- |
| **100** | **1 0 0 1 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1** |