**int f(int x, int y) {**

**int b = x;**

**int e = y;**

**int r = 1;**

**while (e > 1) {**

**if (e % 2 == 1) {**

**r = b \* r;**

**}**

**b = b \* b;**

**e = e / 2;**

**}**

**return r \* b;**

**}**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **x** | 2 | 5 |  |  |  |  |  |
| **y** | 8 | 3 |  |  |  |  |  |
| **result** |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| iteration | b | e | r |  |  | iteration | b | e | r |  |
| 0 | 2 | 8 | 1 |  |  | 0 |  |  |  |  |
| 1 |  |  |  |  |  | 1 |  |  |  |  |
| 2 |  |  |  |  |  | 2 |  |  |  |  |
| 3 |  |  |  |  |  | 3 |  |  |  |  |
| 4 |  |  |  |  |  | 4 |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| iteration | b | e | r |  |  | iteration | b | e | r |  |
| 0 |  |  |  |  |  | 0 |  |  |  |  |
| 1 |  |  |  |  |  | 1 |  |  |  |  |
| 2 |  |  |  |  |  | 2 |  |  |  |  |
| 3 |  |  |  |  |  | 3 |  |  |  |  |
| 4 |  |  |  |  |  | 4 |  |  |  |  |