**Tracing IntersectWithSkips (refer to the candle AND butcher example)**

p1 is the pointer for the *candles* posting list; p2 is the pointer for the *butcher* posting list.
Each pointer starts at the 0th element.

| **Step** | *answer* | *p1* | *p2* | **Comments** |
| --- | --- | --- | --- | --- |
| 1 | **empty array** | **2**  4 8 16 19 23 28 43 111 113 | **1** 2 3 5 8 41 51 60 71 98 140 |  |
| 2 | empty array | **2** 4 8 16 19 23 28 43 111 113 | **1** 2 3 5 8 41 51 60 71 98 140 |  |
| 3 | empty array | **2** 4 8 16 19 23 28 43 111 113 | **1** 2 3 5 8 41 51 60 71 98 140 | 2 == 1? |
| 7 | empty array | **2** 4 8 16 19 23 28 43 111 113 | **1** 2 3 5 8 41 51 60 71 98 140 | 2 < 1? |
| 12 | empty array | **2** 4 8 16 19 23 28 43 111 113 | **1** 2 3 5 8 41 51 60 71 98 140 | 1 has skip; 5 ≤ 1? |
| 15 | empty array | **2** 4 8 16 19 23 28 43 111 113 | 1 **2** 3 5 8 41 51 60 71 98 140 |  |
| 3 | empty array | **2** 4 8 16 19 23 28 43 111 113 | 1 **2** 3 5 8 41 51 60 71 98 140 | 2 == 2? |
| 4 | **2** | **2** 4 8 16 19 23 28 43 111 113 | 1 **2** 3 5 8 41 51 60 71 98 140 |  |
| 5 | 2 | 2 **4** 8 16 19 23 28 43 111 113 | 1 **2** 3 5 8 41 51 60 71 98 140 |  |
| 6 | 2 | 2 **4** 8 16 19 23 28 43 111 113 | 1 2 **3** 5 8 41 51 60 71 98 140 |  |
| 3 | 2 | 2 **4** 8 16 19 23 28 43 111 113 | 1 2 **3** 5 8 41 51 60 71 98 140 | 4 == 3? |
| 7 | 2 | 2 **4** 8 16 19 23 28 43 111 113 | 1 2 **3** 5 8 41 51 60 71 98 140 | 4 < 3? |
| 12 | 2 | 2 **4** 8 16 19 23 28 43 111 113 | 1 2 **3** 5 8 41 51 60 71 98 140 | 3 has noskip |
| 15 | 2 | 2 **4** 8 16 19 23 28 43 111 113 | 1 2 3 **5** 8 41 51 60 71 98 140 |  |
| 3 | 2 | 2 **4** 8 16 19 23 28 43 111 113 | 1 2 3 **5** 8 41 51 60 71 98 140 | 4 == 5? |
| 7 | 2 | 2 **4** 8 16 19 23 28 43 111 113 | 1 2 3 **5** 8 41 51 60 71 98 140 | 4 < 5? |
| 8 | 2 | 2 **4** 8 16 19 23 28 43 111 113 | 1 2 3 **5** 8 41 51 60 71 98 140 | 4 has noskip |
| 11 | 2 | 2 4 **8** 16 19 23 28 43 111 113 | 1 2 3 **5** 8 41 51 60 71 98 140 |  |
| 3 | 2 | 2 4 **8** 16 19 23 28 43 111 113 | 1 2 3 **5** 8 41 51 60 71 98 140 | 8 == 5? |
| 7 | 2 | 2 4 **8** 16 19 23 28 43 111 113 | 1 2 3 **5** 8 41 51 60 71 98 140 | 8 < 5? |
| 12 | 2 | 2 4 **8** 16 19 23 28 43 111 113 | 1 2 3 **5** 8 41 51 60 71 98 140 | 5 has noskip |
| 15 | 2 | 2 4 **8** 16 19 23 28 43 111 113 | 1 2 3 5 **8** 41 51 60 71 98 140 |  |
| 3 | 2 | 2 4 **8** 16 19 23 28 43 111 113 | 1 2 3 5 **8** 41 51 60 71 98 140 | 8 == 8? |
| 4 | 2 **8** | 2 4 **8** 16 19 23 28 43 111 113 | 1 2 3 5 **8** 41 51 60 71 98 140 |  |
| 5 | 2 8 | 2 4 8 **16** 19 23 28 43 111 113 | 1 2 3 5 **8** 41 51 60 71 98 140 |  |
| 6 | 2 8 | 2 4 8 **16** 19 23 28 43 111 113 | 1 2 3 5 8 **41** 51 60 71 98 140 |  |
| 3 | 2 8 | 2 4 8 **16** 19 23 28 43 111 113 | 1 2 3 5 8 **41** 51 60 71 98 140 | 16 == 41? |
| 7 | 2 8 | 2 4 8 **16** 19 23 28 43 111 113 | 1 2 3 5 8 **41** 51 60 71 98 140 | 16 < 41? |
| 8 | 2 8 | 2 4 8 **16** 19 23 28 43 111 113 | 1 2 3 5 8 **41** 51 60 71 98 140 | 16 has skip; 28 ≤ 41? **!!** |
| 9 | 2 8 | 2 4 8 **16** 19 23 28 43 111 113 | 1 2 3 5 8 **41** 51 60 71 98 140 | 16 has skip; 28 ≤ 41 |
| 10 | 2 8 | 2 4 8 16 19 23 **28** 43 111 113 | 1 2 3 5 8 **41** 51 60 71 98 140 | SKIP 19 and 23 !! |
| 9 | 2 8 | 2 4 8 16 19 23 **28** 43 111 113 | 1 2 3 5 8 **41** 51 60 71 98 140 | 28 has skip; 72 ≤ 41?  |
| 3 | 2 8 | 2 4 8 16 19 23 **28** 43 111 113 | 1 2 3 5 8 **41** 51 60 71 98 140 | 28 == 41? |
| 7 | 2 8  | 2 4 8 16 19 23 **28** 43 111 113 | 1 2 3 5 8 **41** 51 60 71 98 140 | 28 < 41? |
| 8 | 2 8 | 2 4 8 16 19 23 **28** 43 111 113 | 1 2 3 5 8 **41** 51 60 71 98 140 | 28 has skip; 72 ≤ 41?  |
| 11 | 2 8 | 2 4 8 16 19 23 28 **43** 111 113 | 1 2 3 5 8 **41** 51 60 71 98 140 |  |
| 3 | 2 8 | 2 4 8 16 19 23 28 **43** 111 113 | 1 2 3 5 8 **41** 51 60 71 98 140 | 43 == 41? |
| 7 | 2 8  | 2 4 8 16 19 23 28 **43** 111 113 | 1 2 3 5 8 **41** 51 60 71 98 140 | 43 < 41? |
| 12 | 2 8 | 2 4 8 16 19 23 28 **43** 111 113 | 1 2 3 5 8 **41** 51 60 71 98 140 | 41 has noskip |
| 15 | 2 8 | 2 4 8 16 19 23 28 **43** 111 113 | 1 2 3 5 8 41 **51** 60 71 98 140 |  |
| 3 | 2 8 | 2 4 8 16 19 23 28 **43** 111 113 | 1 2 3 5 8 41 **51** 60 71 98 140 | 43 == 51? |
| 7 | 2 8 | 2 4 8 16 19 23 28 **43** 111 113 | 1 2 3 5 8 41 **51** 60 71 98 140 | 43 < 51? |
| 8 | 2 8 | 2 4 8 16 19 23 28 **43** 111 113 | 1 2 3 5 8 41 **51** 60 71 98 140 | 43 has noskip |
| 11 | 2 8 | 2 4 8 16 19 23 28 43 **111** 113 | 1 2 3 5 8 41 **51** 60 71 98 140 |  |
| 3 | 2 8 | 2 4 8 16 19 23 28 43 **111** 113 | 1 2 3 5 8 41 **51** 60 71 98 140 | 111 == 51? |
| 7 | 2 8 | 2 4 8 16 19 23 28 43 **111** 113 | 1 2 3 5 8 41 **51** 60 71 98 140 | 111 < 51? |
| 12 | 2 8 | 2 4 8 16 19 23 28 43 **111** 113 | 1 2 3 5 8 41 **51** 60 71 98 140 | 51 has skip; 98 ≤ 111 **!!** |
| 13 | 2 8 | 2 4 8 16 19 23 28 43 **111** 113 | 1 2 3 5 8 41 **51** 60 71 98 140 | 51 has skip; 98 ≤ 111  |
| 14 | 2 8 | 2 4 8 16 19 23 28 43 **111** 113 | 1 2 3 5 8 41 51 60 71 **98** 140 |  |
| 13 | 2 8 | 2 4 8 16 19 23 28 43 **111** 113 | 1 2 3 5 8 41 51 60 71 **98** 140 | 98 has noskip |
| 3 | 2 8 | 2 4 8 16 19 23 28 43 **111** 113 | 1 2 3 5 8 41 51 60 71 **98** 140 | 111 == 98? |
| 7 | 2 8 | 2 4 8 16 19 23 28 43 **111** 113 | 1 2 3 5 8 41 51 60 71 **98** 140 | 111 < 98? |
| 12 | 2 8 | 2 4 8 16 19 23 28 43 **111** 113 | 1 2 3 5 8 41 51 60 71 **98** 140 | 98 has noskip |
| 15 | 2 8 | 2 4 8 16 19 23 28 43 **111** 113 | 1 2 3 5 8 41 51 60 71 98 **140** |  |
| 3 | 2 8 | 2 4 8 16 19 23 28 43 **111** 113 | 1 2 3 5 8 41 51 60 71 98 **140** | 111 == 140? |
| 7 | 2 8 | 2 4 8 16 19 23 28 43 **111** 113 | 1 2 3 5 8 41 51 60 71 98 **140** | 111 < 140? |
| 11 | 2 8 | 2 4 8 16 19 23 28 43 111 **113** | 1 2 3 5 8 41 51 60 71 98 **140** |  |
| 3 | 2 8 | 2 4 8 16 19 23 28 43 111 **113** | 1 2 3 5 8 41 51 60 71 98 **140** | 113 == 140? |
| 7 | 2 8 | 2 4 8 16 19 23 28 43 111 **113** | 1 2 3 5 8 41 51 60 71 98 **140** | 113 < 140? |
| 8 | 2 8 | 2 4 8 16 19 23 28 43 111 **113** | 1 2 3 5 8 41 51 60 71 98 **140** | 113 has noskip |
| 11 | 2 8 | 2 4 8 16 19 23 28 43 111 113**NIL** | 1 2 3 5 8 41 51 60 71 98 **140** | End of loop on line 2 |
| 16 | **2 8** |  |  |  |