|                           | a [] |              |              |   |   |   |   |   |              |              |    |    |                          |    |    |    |
|---------------------------|------|--------------|--------------|---|---|---|---|---|--------------|--------------|----|----|--------------------------|----|----|----|
|                           | 0    | 1            | 2            | 3 | 4 | 5 | 6 | 7 | 8            | 9            | 10 | 11 | 12                       | 13 | 14 | 15 |
|                           | M    | E            | R            | G | E | S | 0 | R | т            | E            | х  | Α  | M                        | P  | L  | E  |
| merge(a, aux, 0, 0, 1)    | E    | M            | R            | G | E | S | 0 | R | $\mathbf{T}$ | E            | X  | A  | M                        | P  | L  | E  |
| merge(a, aux, 2, 2, 3)    | E    | $\mathbb{M}$ | G            | R | E | S | 0 | R | $\mathbf{T}$ | E            | X  | A  | M                        | P  | L  | E  |
| merge(a, aux, 0, 1, 3)    | E    | G            | M            | R | E | S | 0 | R | $\mathbf{T}$ | E            | X  | A  | ${\mathbb M}$            | P  | L  | E  |
| merge(a, aux, 4, 4, 5)    | E    | G            | M            | R | E | S | 0 | R | $\mathbf{T}$ | E            | X  | A  | M                        | P  | L  | E  |
| merge(a, aux, 6, 6, 7)    | E    | G            | M            | R | E | S | 0 | R | $\mathbf{T}$ | E            | X  | A  | M                        | P  | L  | E  |
| merge(a, aux, 4, 5, 7)    | E    | G            | $\mathbb{M}$ | R | E | 0 | R | S | $\mathbf{T}$ | E            | X  | A  | $\underline{\mathbb{M}}$ | P  | L  | E  |
| merge(a, aux, 0, 3, 7)    | E    | E            | G            | M | 0 | R | R | S | $\mathbf{T}$ | E            | X  | A  | $\mathbb{M}$             | P  | L  | E  |
| merge(a, aux, 8, 8, 9)    | E    | E            | G            | M | 0 | R | R | S | E            | Т            | X  | A  | $\mathbb{M}$             | P  | L  | E  |
| merge(a, aux, 10, 10, 11) | E    | E            | G            | M | 0 | R | R | S | E            | $\mathbf{T}$ | Α  | X  | M                        | P  | L  | E  |
| merge(a, aux, 8, 9, 11)   | E    | E            | G            | M | 0 | R | R | S | A            | E            | Т  | X  | M                        | P  | L  | E  |
| merge(a, aux, 12, 12, 13) | E    | E            | G            | M | 0 | R | R | S | A            | E            | T  | X  | M                        | P  | L  | E  |
| merge(a, aux, 14, 14, 15) | E    | E            | G            | M | 0 | R | R | S | A            | E            | T  | X  | M                        | P  | E  | L  |
| merge(a, aux, 12, 13, 15) | E    | E            | G            | M | 0 | R | R | S | A            | E            | Т  | X  | E                        | L  | M  | P  |
| merge(a, aux, 8, 11, 15)  | E    | Ε            | G            | M | 0 | R | R | S | A            | E            | E  | L  | M                        | P  | Т  | X  |
| merge(a, aux, 0, 7, 15)   | Α    | E            | E            | E | E | G | L | M | M            | 0            | P  | R  | R                        | S  | Т  | X  |