What Makes an Algorithm Correct

Loop Invariant

Must be :

1. true before the first iteration of the loop **(initialization)**
2. true before an iteration of the loop and true before the next iteration **(maintenance)**
3. true after the loop terminate — the algorithm is correct **(termination)**

We assume this to be [assumption]. [assumption] must be correct before the loop, must be correct in every iterations of the loop, and must be true after the loop terminate ⇒ the algorithm is correct