Implementation of the sort-merge join between tables R and S with (R.A = S.B)

sort the tuples in R on attribute A; // assume R has n tuples (records)
sort the tuples in S on attribute B; // assume S has m tuples (records)

i = 1; // initialize the record pointer of table R
j = 1; // initialize the record pointer of table S

while ((i <= n) && (j <= m)) {
  if (R[i].A > S[j].B) {
    j++; // advance the record pointer of S;
  }
  elseif (R[i].A < S[j].B) {
    i++; // advance the record pointer of R
  }
  else { // R[i].A == S[j].B, so we output all matched pairs of tuples
    p = i; // p is the auxiliary record pointer of table R
    while ((p <= n) && (R[p].A == S[j].B)) {
      q = j; // q is the auxiliary record pointer of table S
      while ((q <= m) && (R[p].A == S[q].B)) {
        output the combined tuple <R[p],S[q]> to T; //T is the result table
        q++;
      }
      p++;
    }
    i = p; // update the primary record pointer of table R
    j = q; // update the primary record pointer of table S
  }
}