```
PF[n_, σ_{i_,j_}] := PF[n, σ_{i,j}] = Module[{p, q, s},
    Flatten@{σ_{i,j}, σ_{j,i}, σ̄_{j,i},
      Table[{σ_{p,q}, σ_{q,p}, σ̄_{p,q}, σ̄_{q,p}}, {p, {i, j}}, {q, Range[n] \ {i, j}}],
      Table[{σ_{p,q}, σ̄_{p,q}}, {p, Range[i + 1, n] \ {j}}, {q, Range[n] \ {i, j, p}}] }];
PF[n_, σ̄_{i_,j_}] := PF[n, σ̄_{i,j}] = PF[n, σ_{i,j}] /. σ_{i,j} → σ̄_{i,j}
```