Floyd-Warshall Algorithm

- 全點對最短路徑
- $f_k(i,j) = \min(f_{k-1}(i,j)\ ,\ f_{k-1}(i,k) + f_{k-1}(k,j))$
- 時間複雜度：$\Theta(n^3)$
- Problem size : $n = 2 \cdot 10^4 \rightarrow n^3 = 8 \cdot 10^{12}$

Floyd-Warshall - CPU

```
1   for (int k = 0; k < n; k++) {
2       for (int i = 0; i < n; i++) {
3           for (int j = 0; j < n; j++) {
4               g[i][j] = min(g[i][j], g[i][k] + g[k][j]);
5           }
6       }
7   }
```