

1. 根据List-Scheduling算法求解如下负载平衡问题。

List-Scheduling (m, n, t_1, \dots, t_n)

For $i = 1$ to m

$L[i] = 0$.

$S[i] \leftarrow \emptyset$.

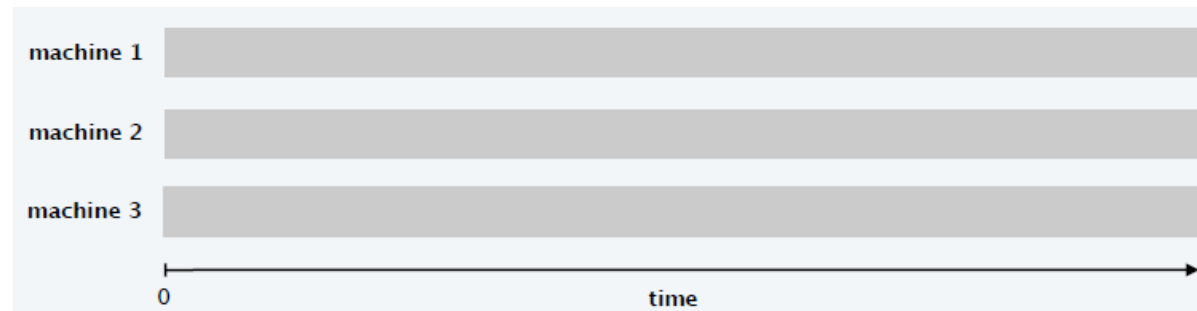
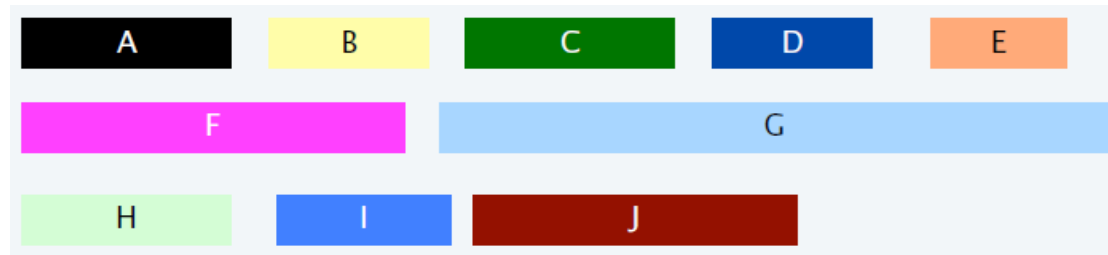
For $j = 1$ to n

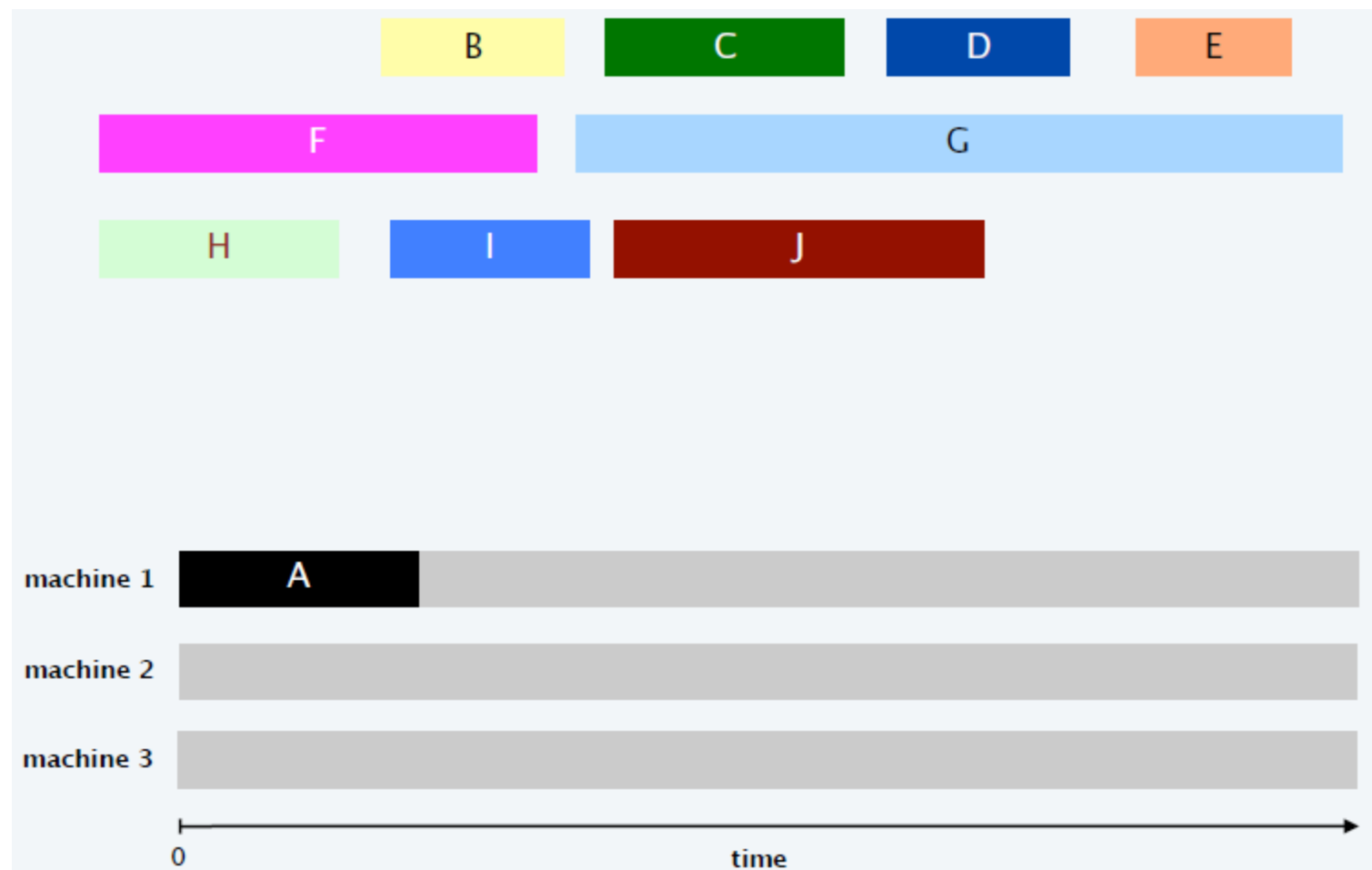
$i \leftarrow \operatorname{argmin}_k L[k]$.

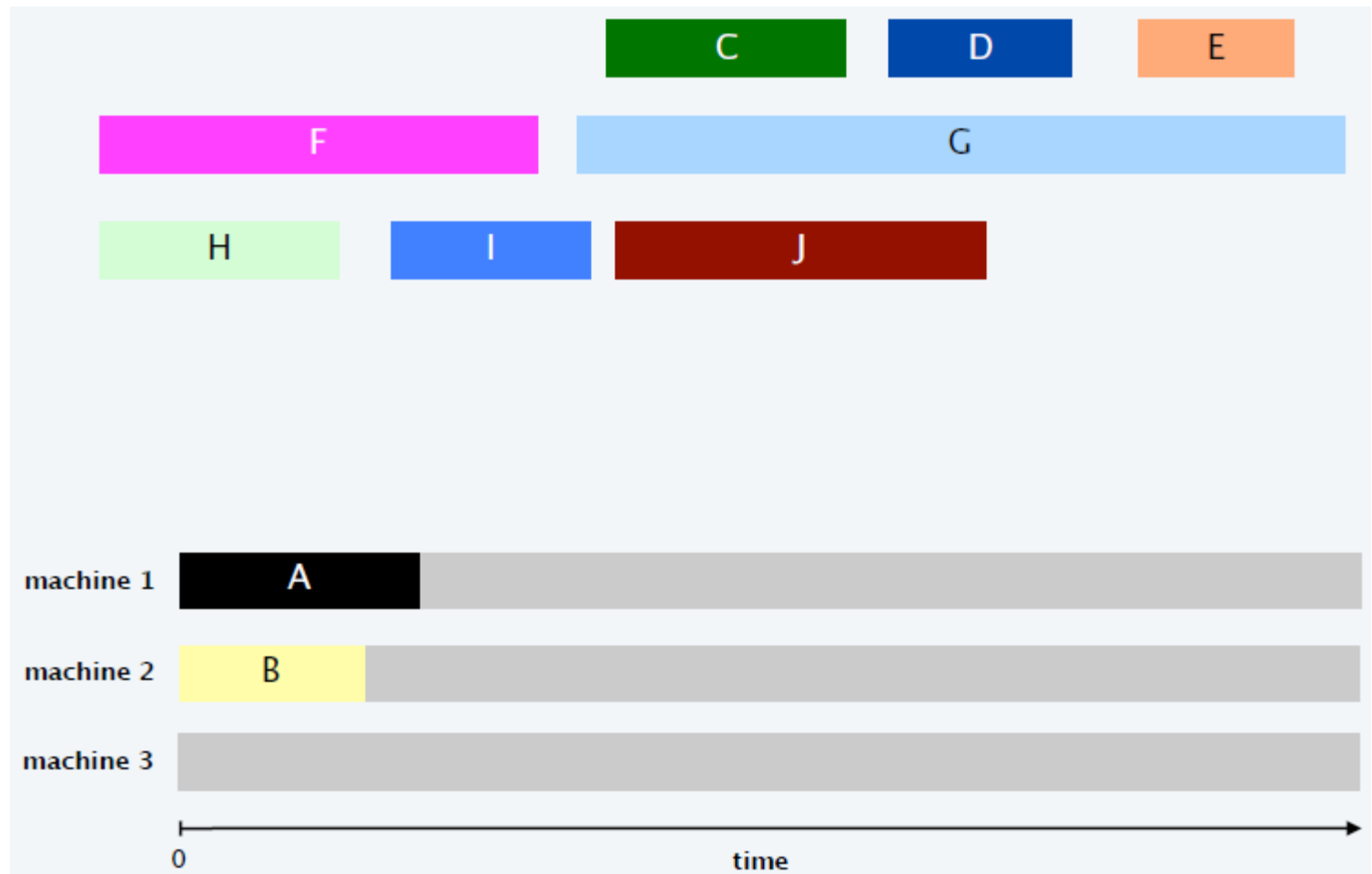
$S[i] \leftarrow S[i] \cup \{j\}$.

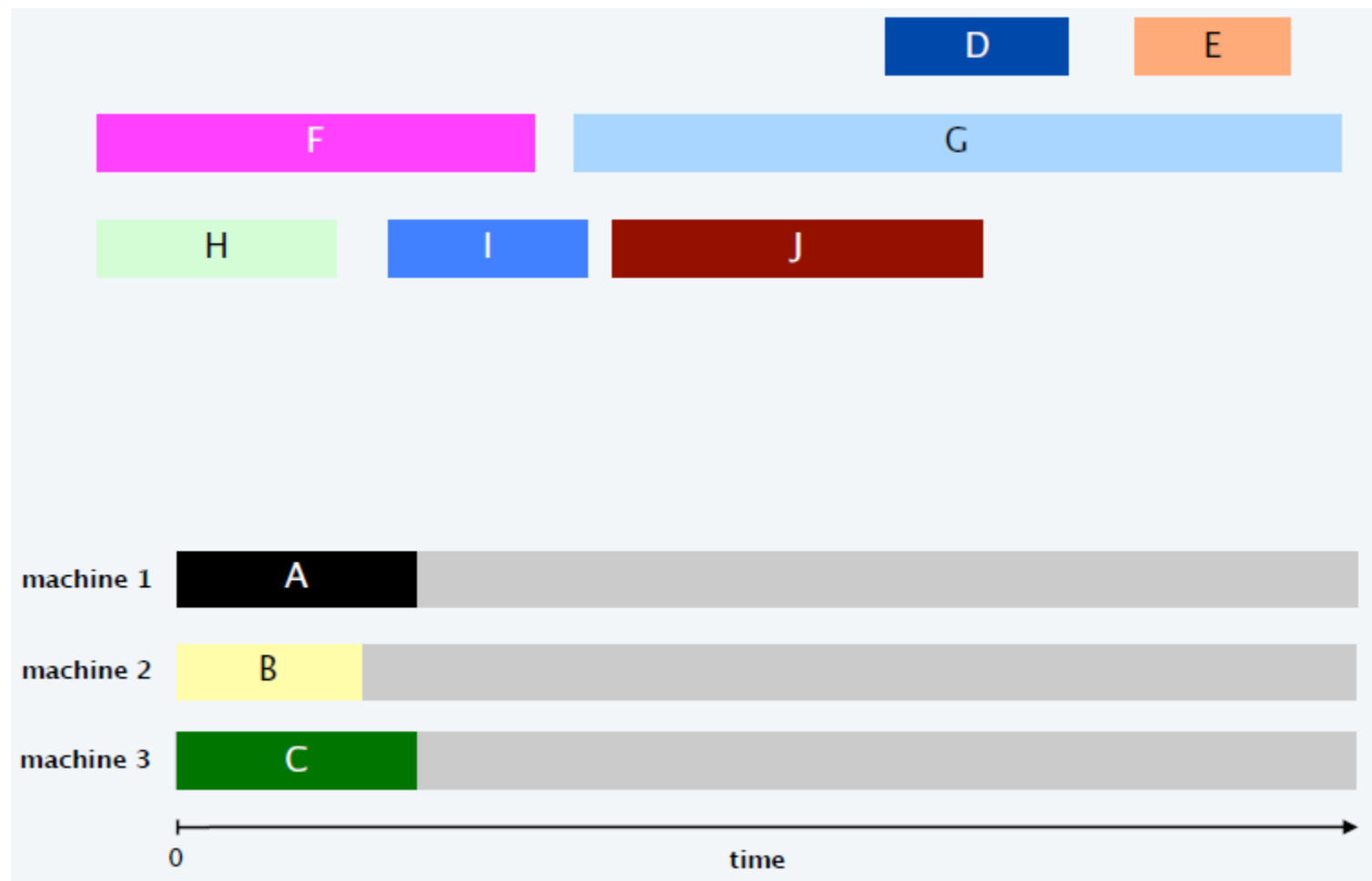
$L[i] \leftarrow L[i] + t_j$.

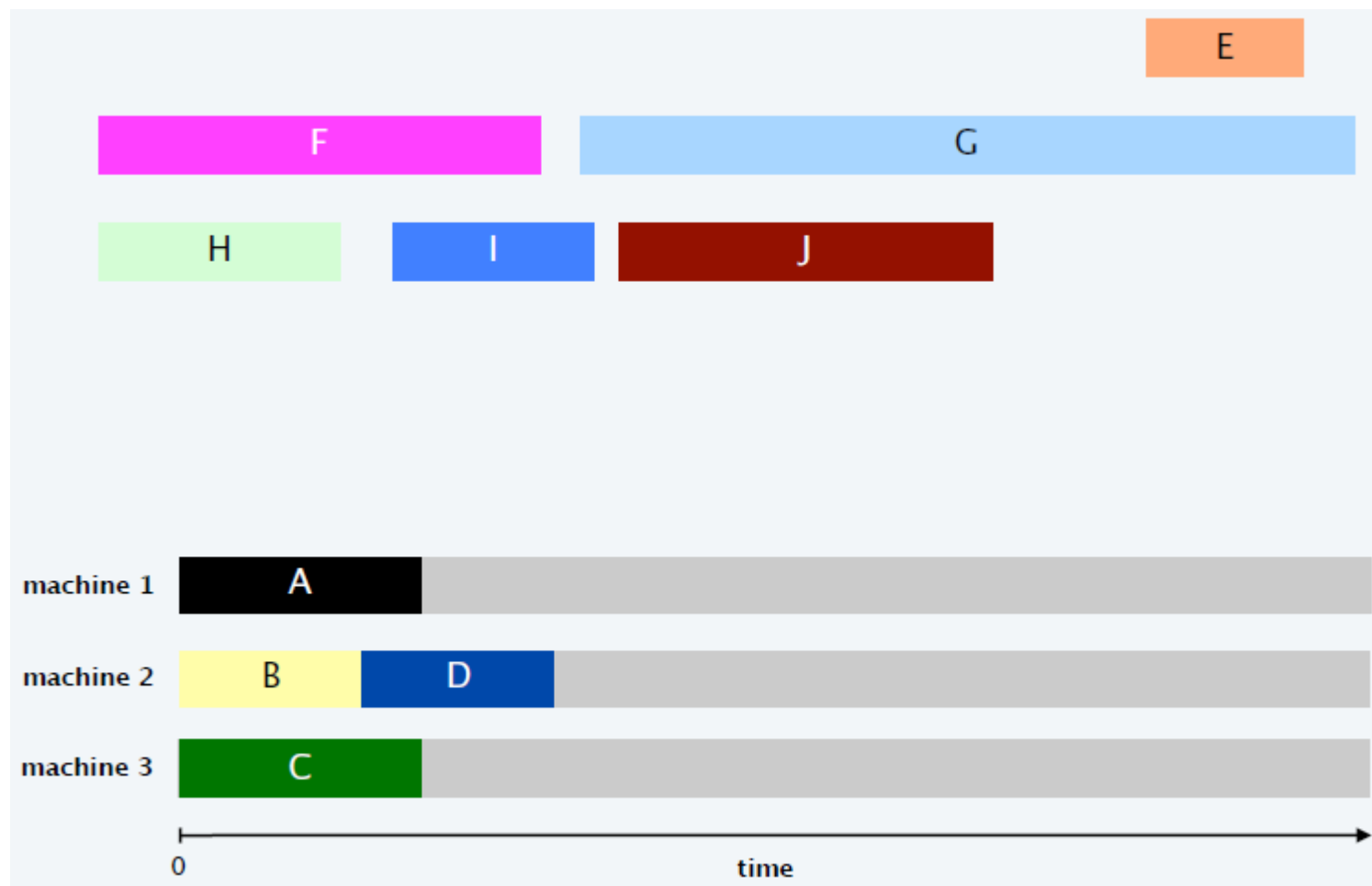
Return $S[1], S[2], \dots, S[m]$.

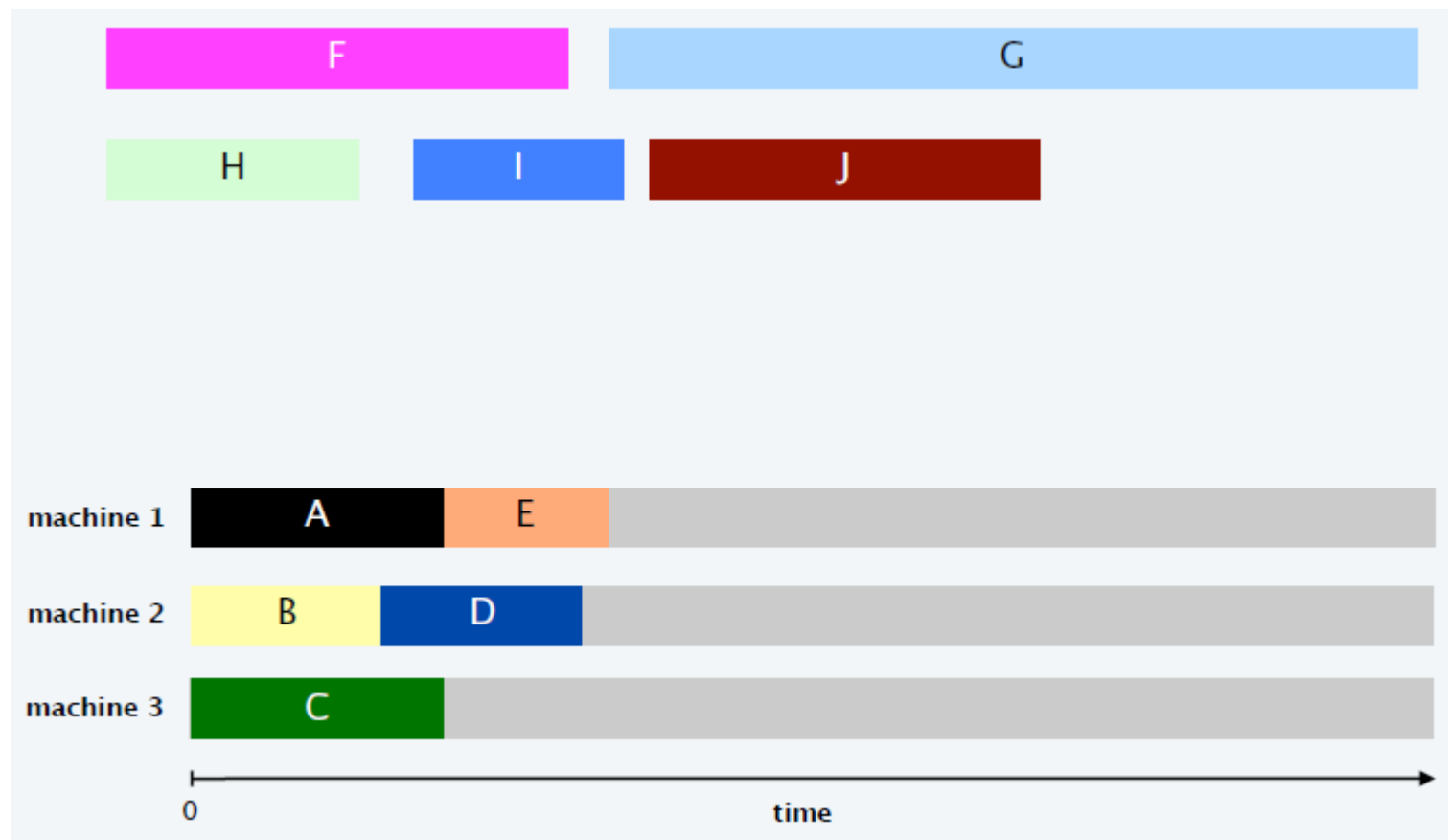


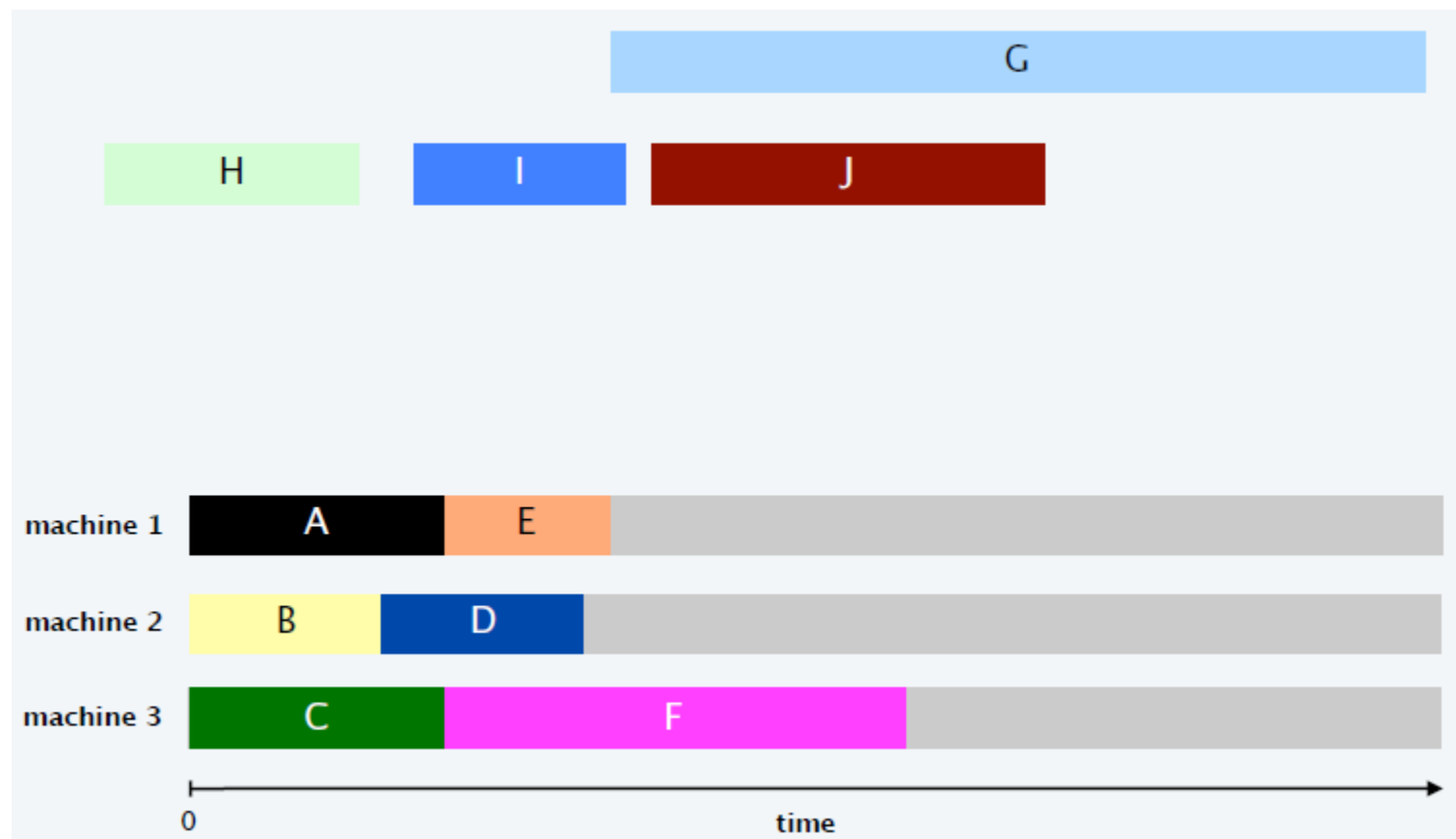


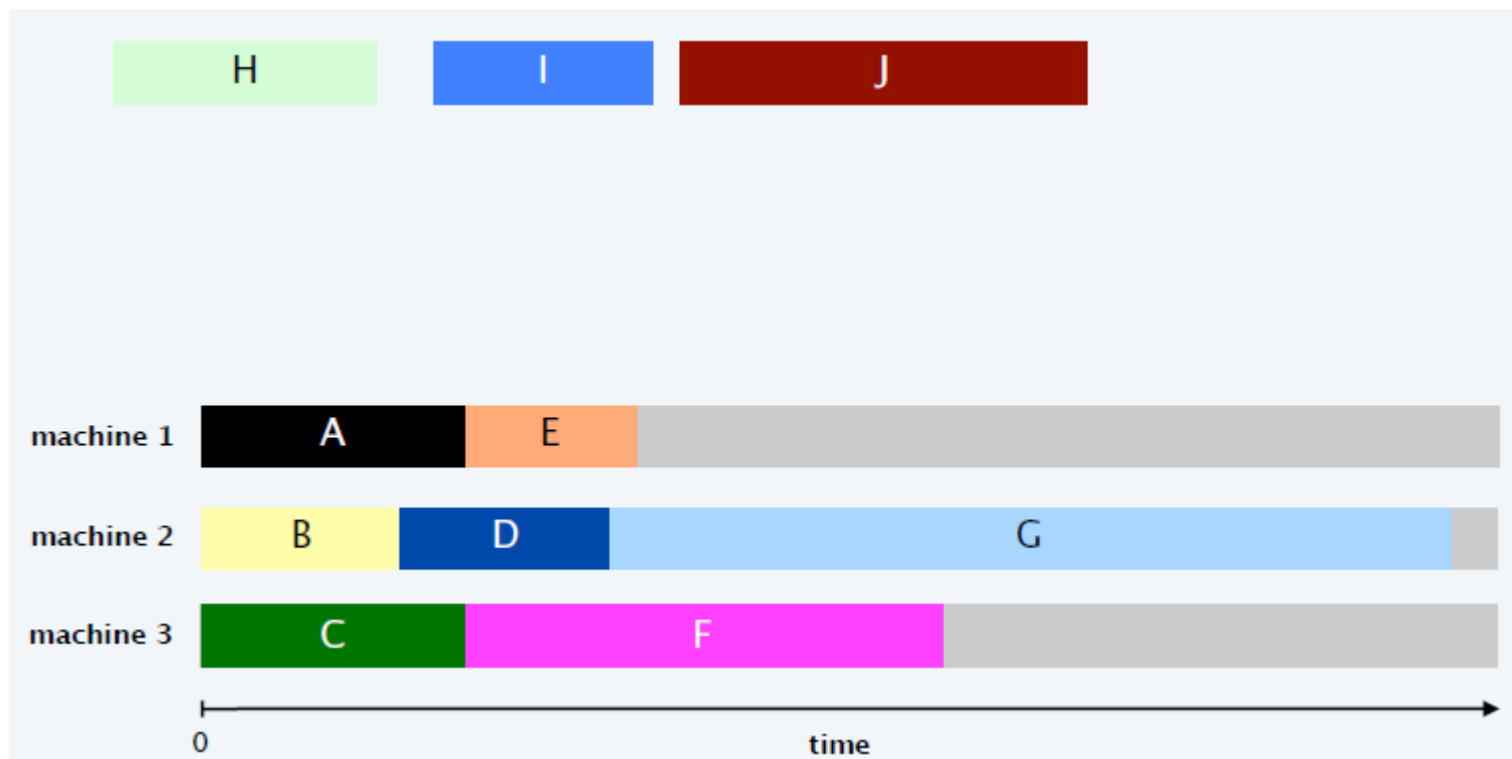


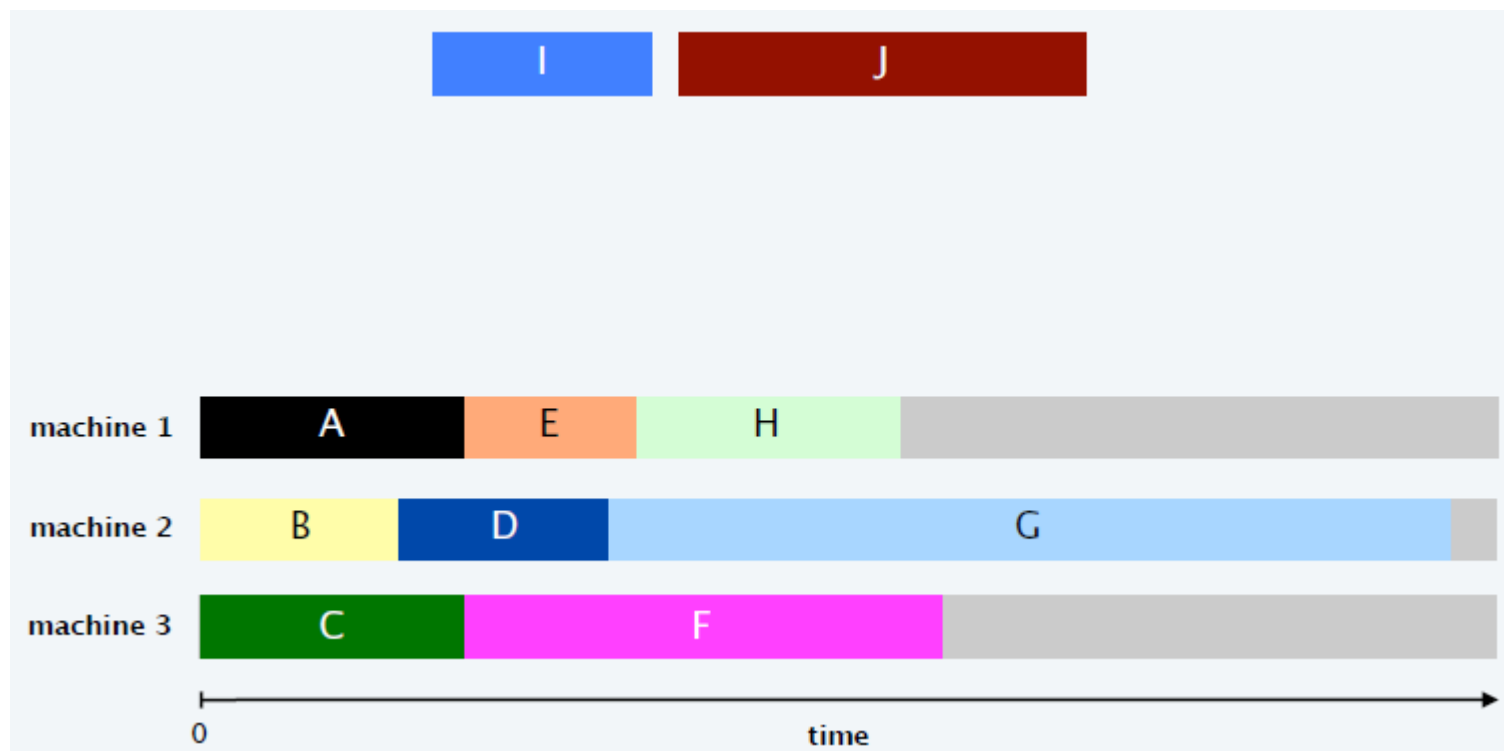


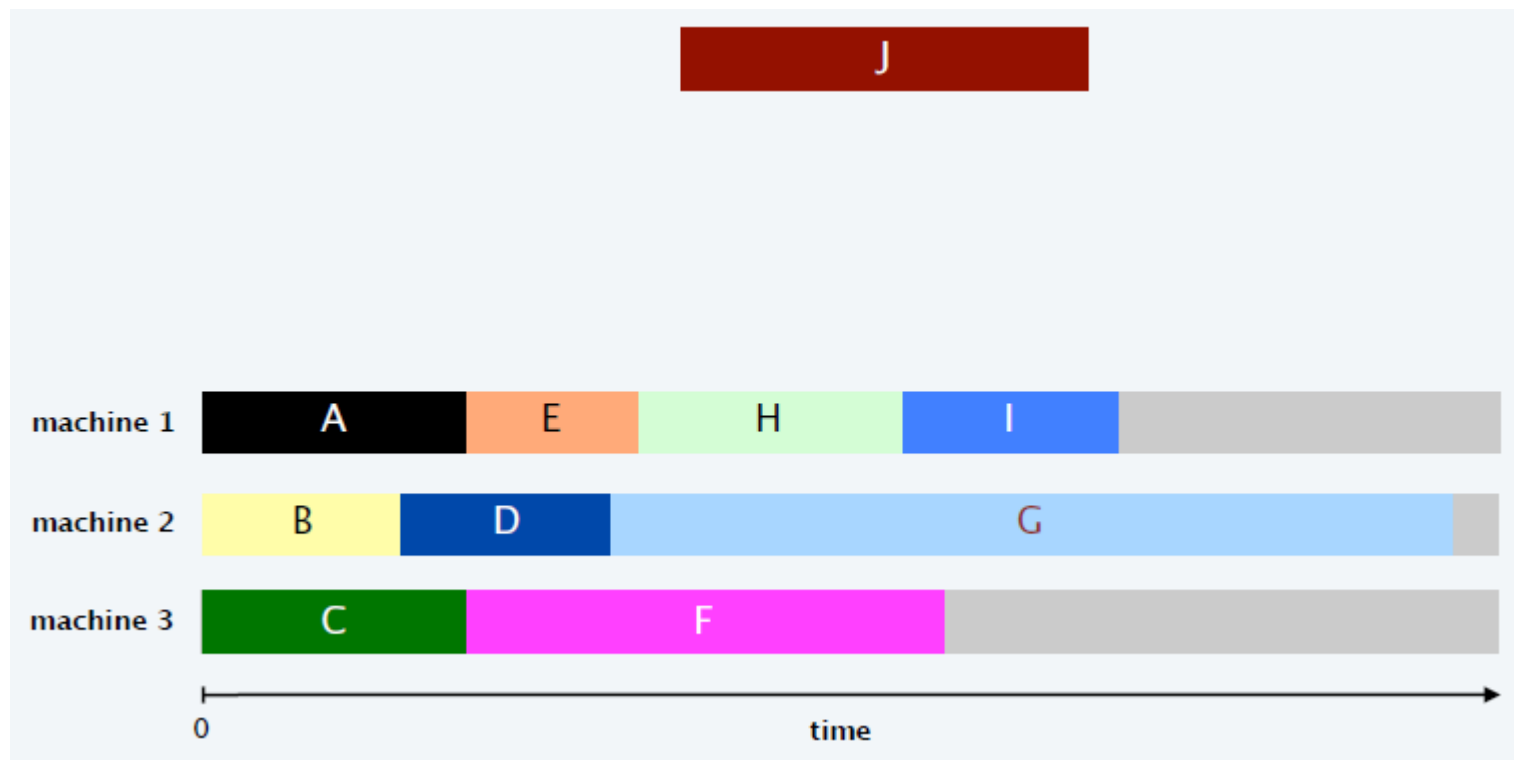


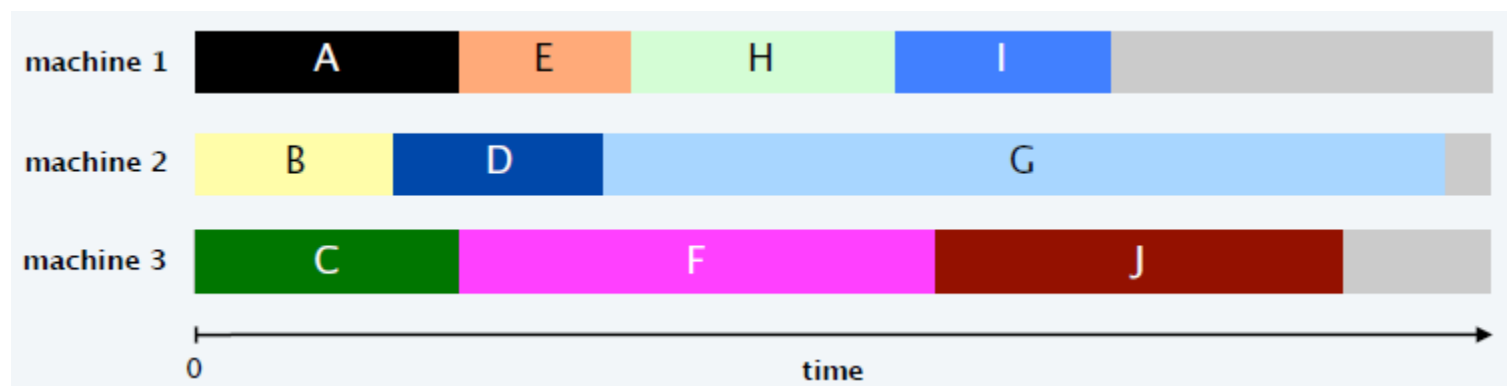


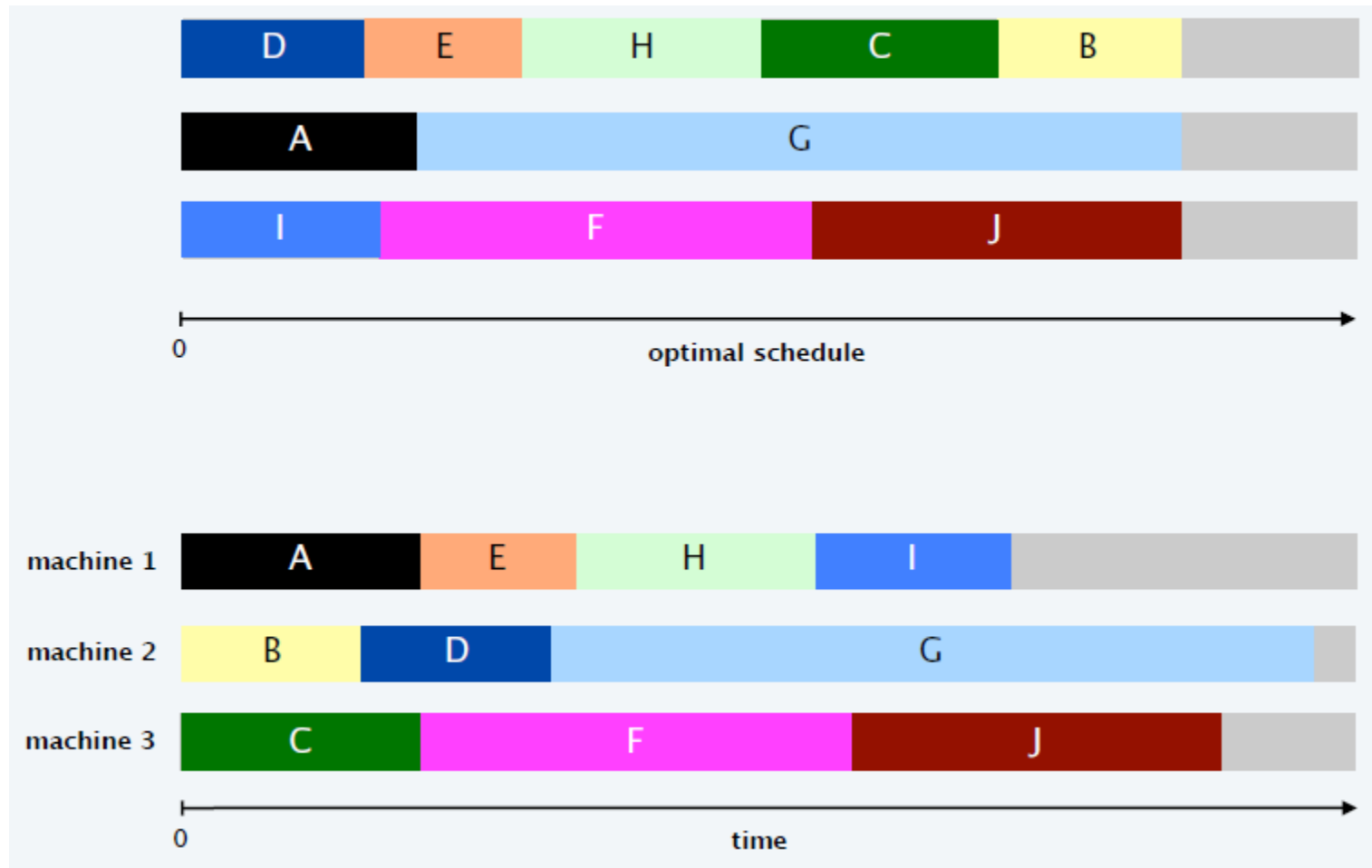




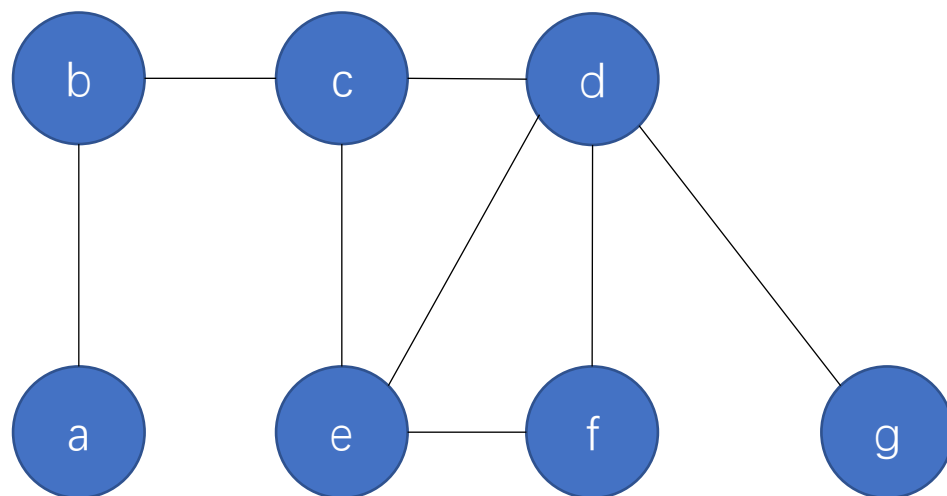








2. 根据VCOVER-APPROX算法找出下图的一个顶点覆盖。



VCOVER-APPROX算法

输入： 无向图 $G=(V, E)$

输出： G 的一个顶点覆盖 C

1. $C \leftarrow \{ \}$

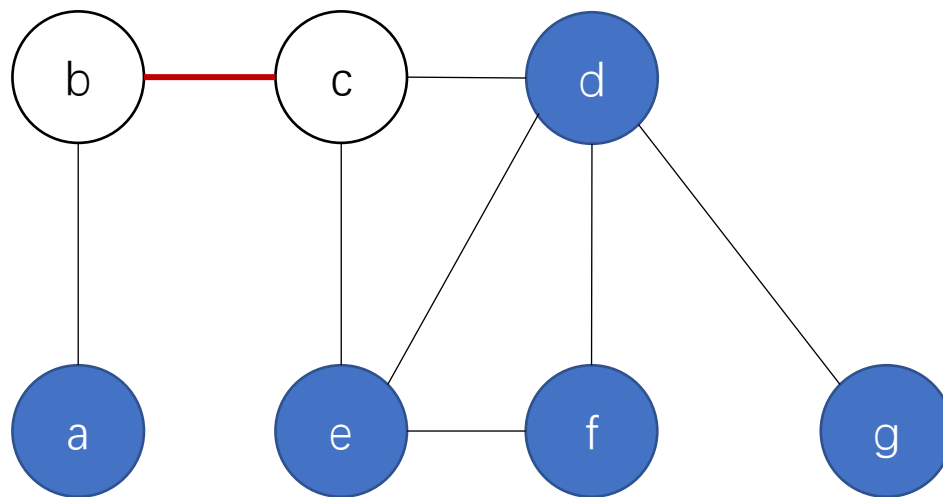
2. while $E \neq \{ \}$

3. 设 $e=(u, v)$ 为 E 中的任意边

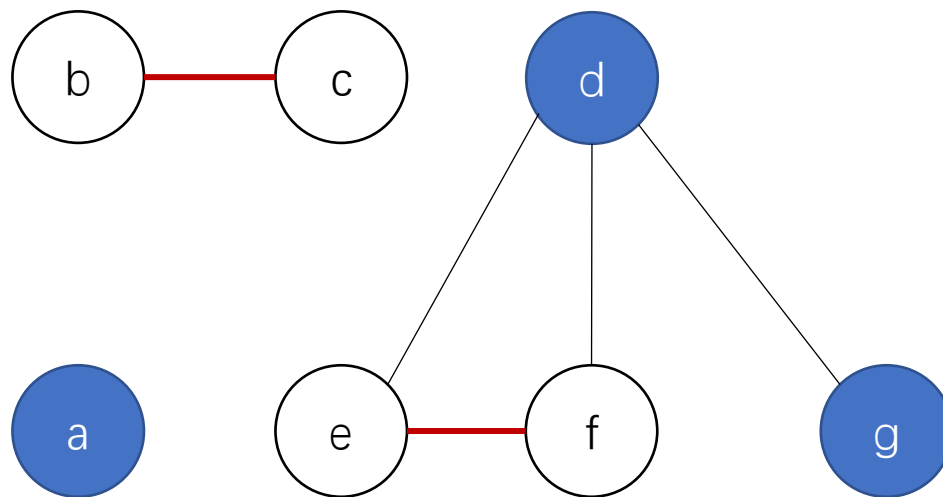
4. $C \leftarrow C \cup \{u, v\}$

5. 删除 e 和 E 中所有与 u 和 v 相关联的边

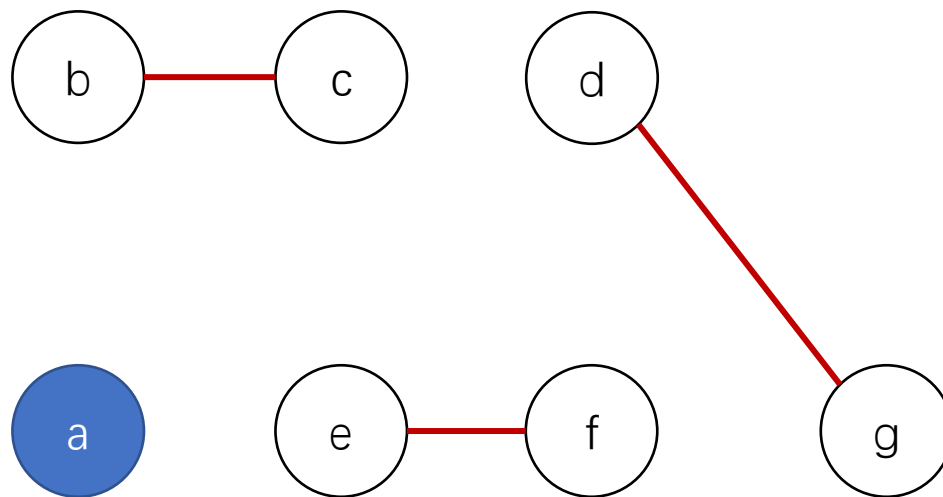
6. end while



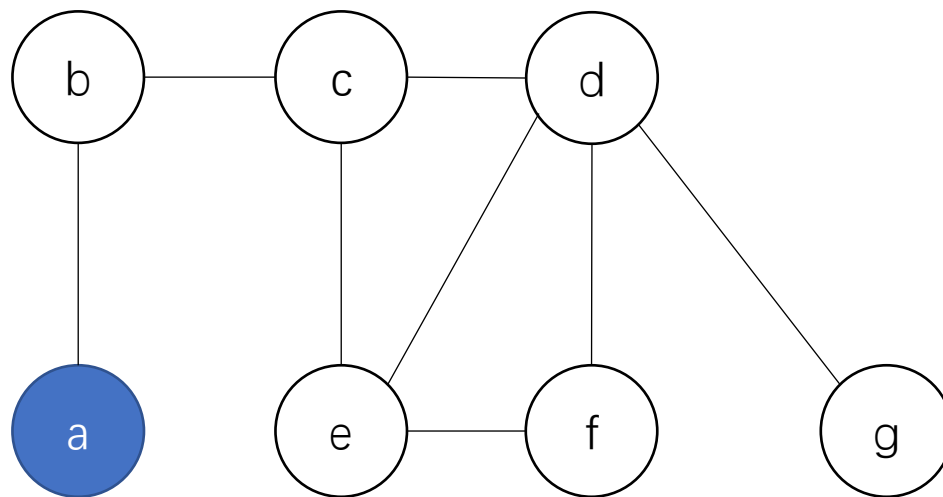
选择 (b, c) 边，并删去 b、c 所连接的边



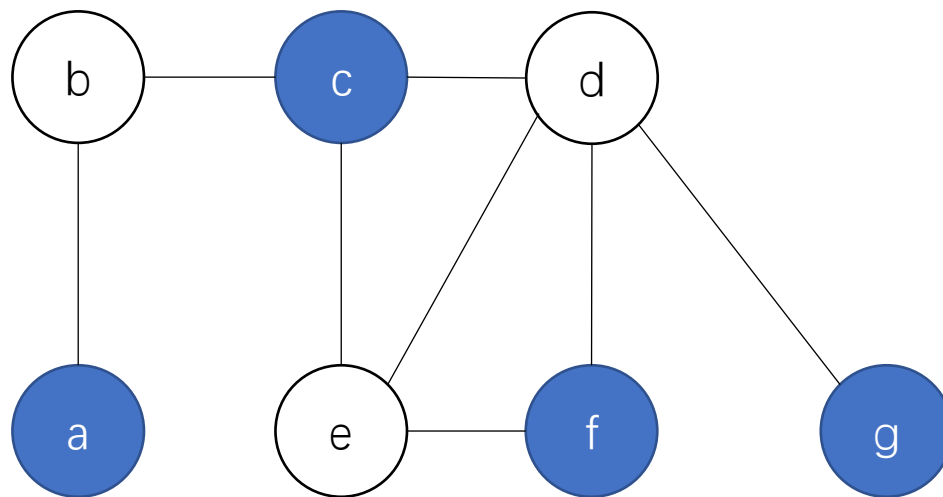
选择 (e, f) 边，并删去 e、f 所连接的边



选择(d, g)边



产生一个覆盖: b, c, d, e, f, g



最小覆盖为b, d, e