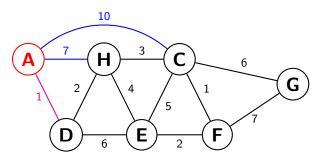
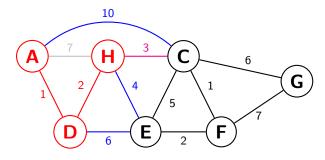
Prim's Algorithm CSUF CPSC 335

Step 0



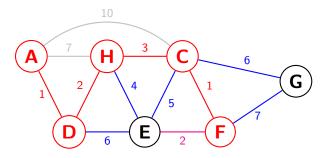
$$\begin{split} K &= \emptyset \qquad S = \{A\} \qquad U = \{D, H, E, C, F, G\} \\ B &= \{\mathbf{A}\mathbf{D^1}, AH^7, AC^{10}\} \qquad b = AD \end{split}$$

Step 2



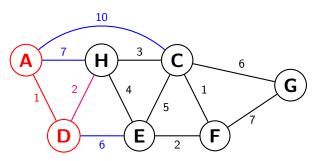
$$\begin{split} K &= \{AD, DH\} \quad S = \{A, D, H\} \quad U = \{E, C, F, G\} \\ B &= \{AC^{10}, \mathbf{HC^3}, HE^4, DE^6\} \quad b = HC \end{split}$$

Step 4



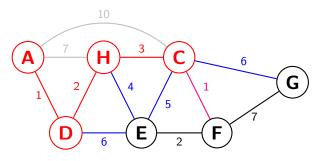
 $K = \{AD, DH, HC, CF\} \quad S = \{A, D, H, C, F\}$ $U = \{E, G\}$ $B = \{HE^4, DE^6 CE^5, \mathbf{FE^2}, FG^7, CG^6\} \quad b = FE$

Step 1



$$\begin{split} K &= \{AD\} \qquad S = \{A,D\} \qquad U = \{H,E,C,F,G\} \\ B &= \{AH^7,AC^{10},\mathbf{DH^2},DE^6\} \qquad b = DH \end{split}$$

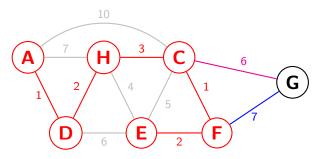
Step 3



$$K = \{AD, DH, HC\} \quad S = \{A, D, H, C\} \quad U = \{E, F, G\}$$

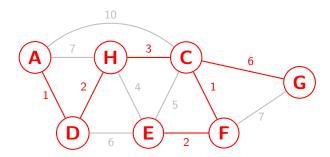
$$B = \{HE^4, DE^6 CE^5, \mathbf{CF^1}, CG^6\} \quad b = CF$$

Step 5



$$\begin{split} K &= \{AD, DH, HC, CF, FE\} \quad S = \{A, D, H, C, F, E\} \quad U = \{G\} \\ B &= \{FG^7, \mathbf{CG^6}\} \qquad b = CG \end{split}$$

Result: Minimal Spanning Tree



$$\begin{split} K &= \{AD, DH, HC, CF, FE, CG\} \\ S &= \{A, D, H, C, F, E, G\} \\ U &= \emptyset \end{split}$$