

Graph Practices

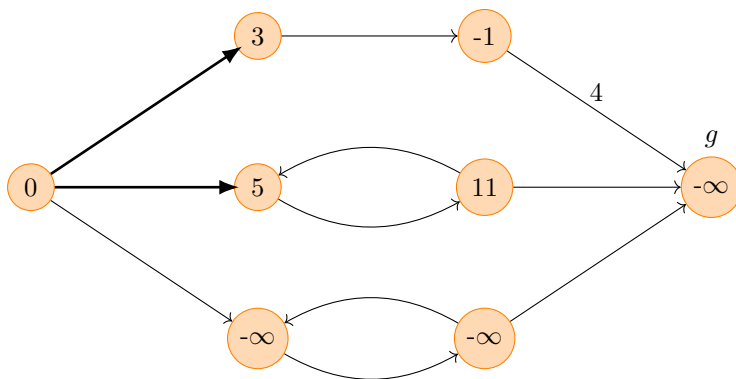
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1 Practices:

1.1 Practice 01:

```
1 \begin{tikzpicture}
2   \node(0) at (0,0)[circle,orange,fill= orange!30,text=black,draw]{0};
3   \node(3) at (3,2)[circle,orange,fill= orange!30,text=black,draw]{3};
4   \node(5) at (3,0)[circle,orange,fill= orange!30,text=black,draw]{5};
5   \node(i1) at (3,-2)[circle,orange,fill= orange!30,text=black,draw]{-\infty};
6   \node(-1) at (6,2)[circle,orange,fill= orange!30,text=black,draw]{-1};
7   \node(11) at (6,0)[circle,orange,fill= orange!30,text=black,draw]{11};
8   \node(i2) at (6,-2)[circle,orange,fill= orange!30,text=black,draw]{-\infty};
9   \node(i3) at (9,0)[circle,orange,fill= orange!30,text=black,label=above:$g$,draw]{-\infty}
10  \infty};
11 %\usetikzlibrary{arrows.meta}
12 \draw[->, >=Latex, line width=1pt, shorten >=-2pt] (0) to (3);
13 \draw[->, >=Latex, line width=1pt, shorten >=-2pt] (0) -- (5);
14 \draw[->] (0) to (i1);
15 \draw[->] (3) to (-1);
16 \draw[->, bend right =30] (5) to (11);
17 \draw[->, bend right =30] (11) to (5);
18 \draw[->, bend right =30] (i1) to (i2);
19 \draw[->, bend right =30] (i2) to (i1);
20 \draw[->] (-1) to node[midway, above]{4}(i3);
21 \draw[->] (11) to (i3);
22 \draw[->] (i2) to (i3);
23 \end{tikzpicture}
```

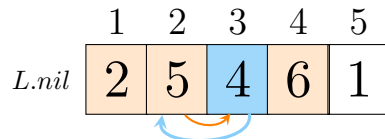


1.2 Practice 02:

```

1 \begin{tikzpicture}
2   \node(2) at (0,0)[text=black,fill=orange!20,label=\Large 1,draw,scale=2]{2};
3   \node(5) at (0.8,0)[text=black,fill=orange!20,label=\Large 2,draw,scale=2]{5};
4   \node(4) at (1.6,0)[text=black,fill=skyblue!80,label=\Large 3,draw,scale=2]{4};
5   \node(6) at (2.4,0)[text=black,fill=orange!20,label=\Large 4,draw,scale=2]{6};
6   \node(1) at (3.2,0)[text=black,label=\Large 5,draw,scale=2]{1};
7
8   \draw[->,>=stealth,very thick,skyblue,bend left=100](1.75,-0.45) to (0.6,-0.47);
9   \draw[->,>=stealth,thick,orange,bend angle=50,bend right](0.9,-0.47) to (1.5,-0.45);
10 \end{tikzpicture}

```

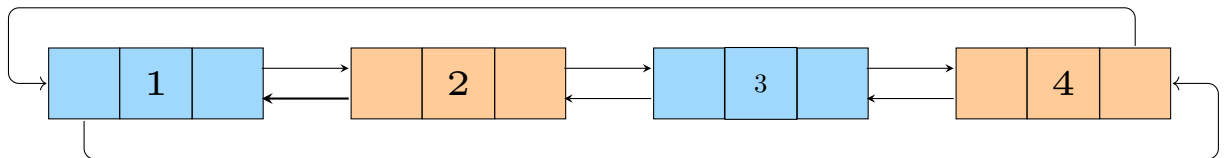


1.3 Practice 03:

```

1 \begin{tikzpicture}
2   \node(0) at (0,0)[text=black,fill=skyblue!80,draw,scale=4]{};
3   \node at (0.95,0)[text=black,fill=skyblue!80,draw,scale=2.7]{\tiny 1};
4   \node(1) at (1.9,0)[text=black,fill=skyblue!80,draw,scale=4]{};
5
6   \node(2) at (4,0)[text=black,fill=orange!40,draw,scale=4]{};
7   \node at (4.95,0)[text=black,fill=orange!40,draw,scale=2.7]{\tiny 2};
8   \node(3) at (5.9,0)[text=black,fill=orange!40,draw,scale=4]{};
9
10  \node(4) at (8,0)[text=black,fill=skyblue!80,draw,scale=4]{};
11  \node at (8.95,0)[text=black,fill=skyblue!80,minimum width = 0.95cm, minimum height
12    =0.95cm,draw,]{3};
13  \node(5) at (9.9,0)[text=black,fill=skyblue!80,draw,scale=4]{};
14
15  \node(6) at (12,0)[text=black,fill=orange!40,draw,scale=4]{};
16  \node at (12.95,0)[text=black,fill=orange!40,draw,scale=2.7]{\tiny 4};
17  \node(7) at (13.9,0)[text=black,fill=orange!40,draw,scale=4]{};
18
19  \draw[->,>=stealth,pos=1](2.35,0.2) to (3.5,0.2);
20  \draw[->,>=stealth,thick] (3.5,-0.2) to (2.35,-0.2);
21  \draw[->,>=stealth,pos=1](6.35,0.2) to (7.5,0.2);
22  \draw[->,>=stealth,pos=1](7.5,-0.2) to (6.35,-0.2);
23  \draw[->,>=stealth,pos=1](10.35,0.2) to (11.5,0.2);
24  \draw[->,>=stealth,pos=1](11.5,-0.2) to (10.35,-0.2);
25
26  \draw[->, rounded corners](0.south) to(0,-1)to(15,-1) to (15,0)to(7.east);
27  \draw[->, rounded corners](7.north) to(13.9,1)to(-1,1) to (-1,0)to(0.west);
28 \end{tikzpicture}

```



1.4 Practice 04:

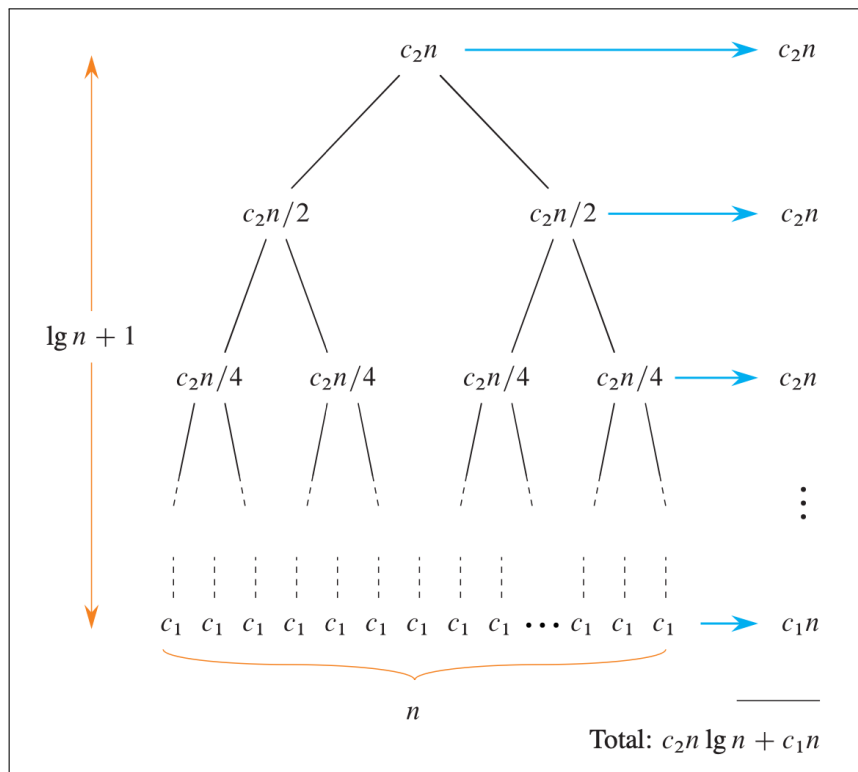


Figure 1: Reference

