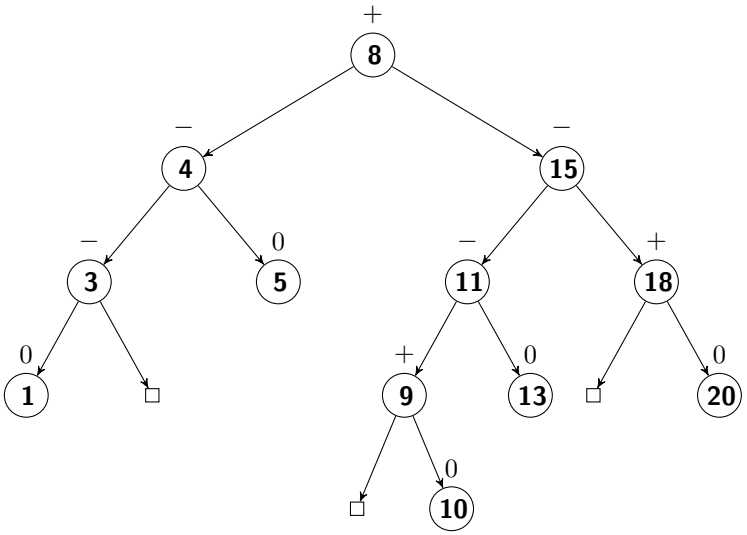
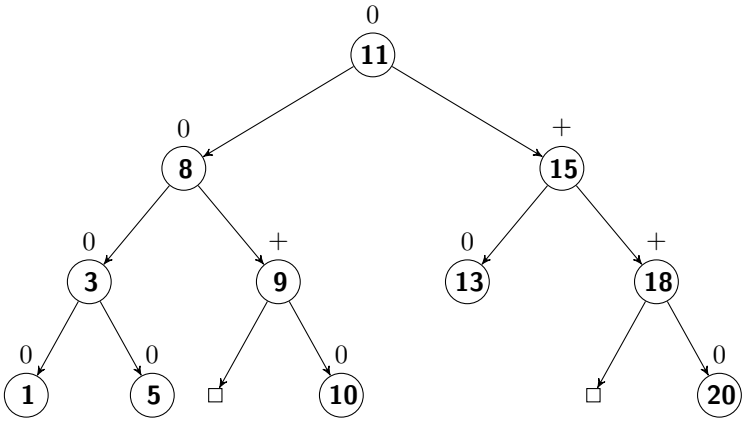
1. (a)



(b)



2. (a) $m_h = F_{h+1} - F_{h+6}$ with
$F_{-6} = F_{-5} = F_{-4} = F_{-3} = F_{-2} = F_{-1} = F_0 = 0, F_1 = 1; F_h = F_{h-1} + F_{h-2}$

(b) $m_0 = 1 > 1.4^0 - 1 = 0$
$m_1 = 2 > 1.4^1 - 1 = 1$
$m_2 = 3 > 1.96 - 1$
$m_3 = 5 > 2.744 - 1$
$m_4 = 8 > 3.8416 - 1$
Assume that it is true for some m_h
Then $m_{h+1} = F_{h+2} - F_{h+7} = F_{h+1} + F_h - (F_{h+6} + F_{h+5})$
$= F_{h+1} - F_{h+6} + F_h - F_{h+5} = m_h + m_{h-1} \geq 1.4^h - 1 + 1.4^{h-1} - 1$
$= 1.4^{h-1}(1.4 + 1) - 2 = 1.4^{h-1}(2.4) - 2 \geq 1.4^{h+1} - 1$
$1.4^2 = 1.96 \rightarrow$ if $h > 4$ then $1.4^{h-1}(1.96{+}0.44) > 1.4^{h+1}{+}(0.44)1.4^{h-1} >> 1.4^{h+1} + 1$