

**2.7.** Set  $P\{X_n = n\} = 1 - P\{X_n = 1\} = \frac{1}{2}$ . If  $x \neq 1$ , then  $P\{X_n = x\} = 0 := p(x)$ , whereas  $P\{X_n = 1\} = \frac{1}{2} := p(1)$ .

Clearly  $\sum_x p(x) = \frac{1}{2} \neq 1$ .