1. Do Exercise 6(d) on page 116.

2. For each natural number $n$, let

$$S(n) = \{ E \in \mathcal{P}\{1, 2, \ldots, n\} : E \text{ contains no pair of consecutive integers} \}.$$ 

Prove that the number of sets belonging to $S(n)$ is $f_{n+2}$. (Suggestion: consider $S(n)_0 = \{ E \in S(n) : n \in E \}$ and $S(n)_1 = \{ E \in S(n) : n \not\in E \}$.)