3.5. An Illustration

Consider $\Sigma=\{a, b, c, d\}$ and $I = \{abcd, acbd, acdd, abbdd, abbe, acebd, acbbd, abce, add, aced\}$. The DFA to recognize the language $I$, constructed using the SL-infer algorithm is shown in Figure 3.5.

In the DFA, each state represents a set of strings as:

0 – $\{abcd, acbd, acdd, abbdd, abbe, acebd, acbbd, abce, add, aced\}$

1 – $\{bcd, cbd, cdd, bbdd, bbc, ccbd, cbbcd, bcc, dd, ccd\}$

2 – $\{cd, dd, c, cc\}$, 3 – $\{bd, dd, bbed, d\}$

4, 6, 7, 9, 11, 12 – $\emptyset$, 8 – $\{d, cd\}$, 5, 10 – $\{d\}$

Figure 3.5. DFA that recognizes the set $I$