We have

$$A=\{HHH,\ HHT\} \qquad \Pr\{A\}=2/8=1/4$$

$$B=\{HHT,\ HTT,\ THT,\ TTT\} \qquad \Pr\{B\}=4/8=1/2$$

$$D=\{HTT,\ THT,\ TTH\} \qquad \Pr\{D\}=3/8$$

$$A\cap B=\{HHT\} \qquad \Pr\{A\cap B\}=1/8$$

$$B\cap D=\{HTT,THT\} \qquad \Pr\{B\cap D\}=2/8=1/4$$

$$\Pr\{A\}\Pr\{B\}=\frac{1}{4}\times\frac{1}{2}=\frac{1}{8} \qquad \Pr\{A\cap B\}=\frac{1}{8}\Rightarrow A,B \text{ independent}$$

$$\Pr\{B\}\Pr\{D\}=\frac{1}{2}\times\frac{3}{8}=\frac{3}{16} \qquad Pr\{B\cap D\}=\frac{1}{4}\Rightarrow B \text{ and } D \text{ dependent}$$