

Exercise 1.5

$k = 2$

$$F_2 = EK$$

$$c(E \rightarrow K) = 1 \geq 0.8, \text{ so print } E \rightarrow K$$

$$c(K \rightarrow E) = 4/5 = 0.8, \text{ so print } K \rightarrow E$$

$$H_1 = \{K, E\}$$

GenerateRules stops early since $k = 2 = 1 + 1$

$$F_2 = EO$$

$$c(E \rightarrow O) = 3/4 < 0.8$$

$$c(O \rightarrow E) = 1 \geq 0.8, \text{ so print } O \rightarrow E$$

$$H_1 = \{E\}$$

GenerateRules stops early since $k = 2 = 1 + 1$

$$F_2 = KM$$

$$c(K \rightarrow M) = 3/5 < 0.8$$

$$c(M \rightarrow K) = 1 \geq 0.8, \text{ so print } M \rightarrow K$$

$$H_1 = \{K\}$$

GenerateRules stops early since $k = 2 = 1 + 1$

$$F_2 = KO$$

$$c(K \rightarrow O) = 3/5 < 0.8$$

$$c(O \rightarrow K) = 1 \geq 0.8, \text{ so print } O \rightarrow K$$

$$H_1 = \{K\}$$

GenerateRules stops early since $k = 2 = 1 + 1$

$$F_2 = KY$$

$$c(K \rightarrow Y) = 3/5 < 0.8$$

$$c(Y \rightarrow K) = 1 \geq 0.8, \text{ so print } Y \rightarrow K$$

$$H_1 = \{K\}$$

GenerateRules stops early since $k = 2 = 1 + 1$

$k = 3$

$$F_3 = EOK$$

$$c(EK \rightarrow O) = 3/4 < 0.8$$

$$c(OK \rightarrow E) = 1 \geq 0.8, \text{ so print } OK \rightarrow E$$

$$c(EO \rightarrow K) = 1 \geq 0.8, \text{ so print } EO \rightarrow K$$

$$H_1 = \{E, K\}$$

$k = 3 > 2 = m + 1$, so GenerateRules continues

$$H_2 = \{EK\}$$

$$c(O \rightarrow EK) = 3/4 < 0.8$$

Recursive execution of GenerateRules stops early since $k = 3 = 2 + 1$

Printed rules: $E \rightarrow K, K \rightarrow E, O \rightarrow E, M \rightarrow K, O \rightarrow K, Y \rightarrow K, OK \rightarrow E, EO \rightarrow K$