

Exercise 8

T1: {P1,P2,P3,P5,P7}

T2: {P1,P4,P5,P6,P7}

T3: {P1,P4,P6}

T4: {P1,P4,P5,P6,P7}

T5: {P3,P5}

T6: {P1,P2,P3,P7}

T7: {P2,P7}

T8: {P1,P2,P3,P4,P6,P7}

(a)

T3: {P1,P4,P6}

Rank(T3, {P1, P2})	1
Rank(T3, {P1, P3})	1
Rank(T3, {P1, P4})	2
Rank(T3, {P1, P5})	1
Rank(T3, {P1, P6})	2
Rank(T3, {P1, P7})	1
Rank(T3, {P2, P3})	0
Rank(T3, {P2, P7})	0
Rank(T3, {P3, P7})	0
Rank(T3, {P4, P6})	2
Rank(T3, {P4, P7})	1
Rank(T3, {P5, P7})	0
Rank(T3, {P6, P7})	1
Rank(T3, {P1, P2, P3})	1
Rank(T3, {P1, P2, P7})	1
Rank(T3, {P1, P3, P7})	1
Rank(T3, {P1, P4, P6})	3
Rank(T3, {P1, P4, P7})	2
Rank(T3, {P1, P5, P7})	1
Rank(T3, {P1, P6, P7})	2
Rank(T3, {P2, P3, P7})	0
Rank(T3, {P4, P6, P7})	2
Rank(T3, {P1, P2, P3, P7})	1
Rank(T3, {P1, P4, P6, P7})	3

P7 will be recommended.

(b)

$$J(A, B) = \frac{|A \cap B|}{|A \cup B|}.$$

$$J(T3, T1) = 1 / 7 = 0.143$$

$$J(T3, T2) = 3 / 5 = 0.60$$

$$J(T3, T4) = 3 / 5 = 0.60$$

$$J(T3, T5) = 0 / 5 = 0$$

$$J(T3, T6) = 1 / 6 = 0.167$$

$$J(T3, T7) = 0 / 5 = 0$$

$$J(T3, T8) = 3 / 6 = 0.5$$

T2 and T4 are similar to T3

T2: {P1,P4,P5,P6,P7}

T4: {P1,P4,P5,P6,P7}

T3: {P1,P4,P6}

P7 will be recommended.