Quiz 10. Frequent itemsets. Apriory algorithm

Consider the following transactional dataset:

TID	Items
1	{B, M}
2	{A, B, D, E}
3	{A, C, D, M}
4	{A, B, D, M}
5	{B, C, D, M}

Find all frequent 2-itemsets with minsupport count=2.

Generate candidate frequent 3-itemsets using $C_3=F_2 \times F_1$ candidate generation method

Prune candidates which cannot be frequent

All lexicographically sorted items: I={A, B, C, D, E, M}

Support counts for 1-itemsets:
{A}: 3
{B}: 4
{C}: 2
{D}: 4
{E}: 1
{M}: 4

Frequent 1-itemsets:
{A}: 3
{B}: 4
{C}: 2
{D}: 4
{M}: 4

Support counts
for 2-itemsets
{A, B}: 2
{A, C}: 1
{A, D}: 3
{A, M}: 2
{B, C}: 1
{B, D}: 3
{B, M}: 3
{C, D}: 2
{C, M}: 2
{D, E}: 1
{D, M}: 3

Frequent 2-itemsets:
{A, B}: 2
{A, D}: 3
{A, M}: 2
{B, D}: 3
{B, M}: 3
{C, D}: 2
{C, M}: 2
{D, M}: 3

Frequent 2-itemsets:
{A, B}: 2
{A, D}: 3
{A, M}: 2
{B, D}: 3
{B, M}: 3
{C, D}: 2
{C, M}: 2
{D, M}: 3

X

Frequent 1-itemsets:
{A}: 3
{B}: 3
{C}: 2
{D}: 4
{M}: 4

Candidate generation C_3

{A, B, C} since {A, C} is not frequent
{A, B, D}
{A, B, M}
{A, D, M}
{B, D, M}
{C, D, M}