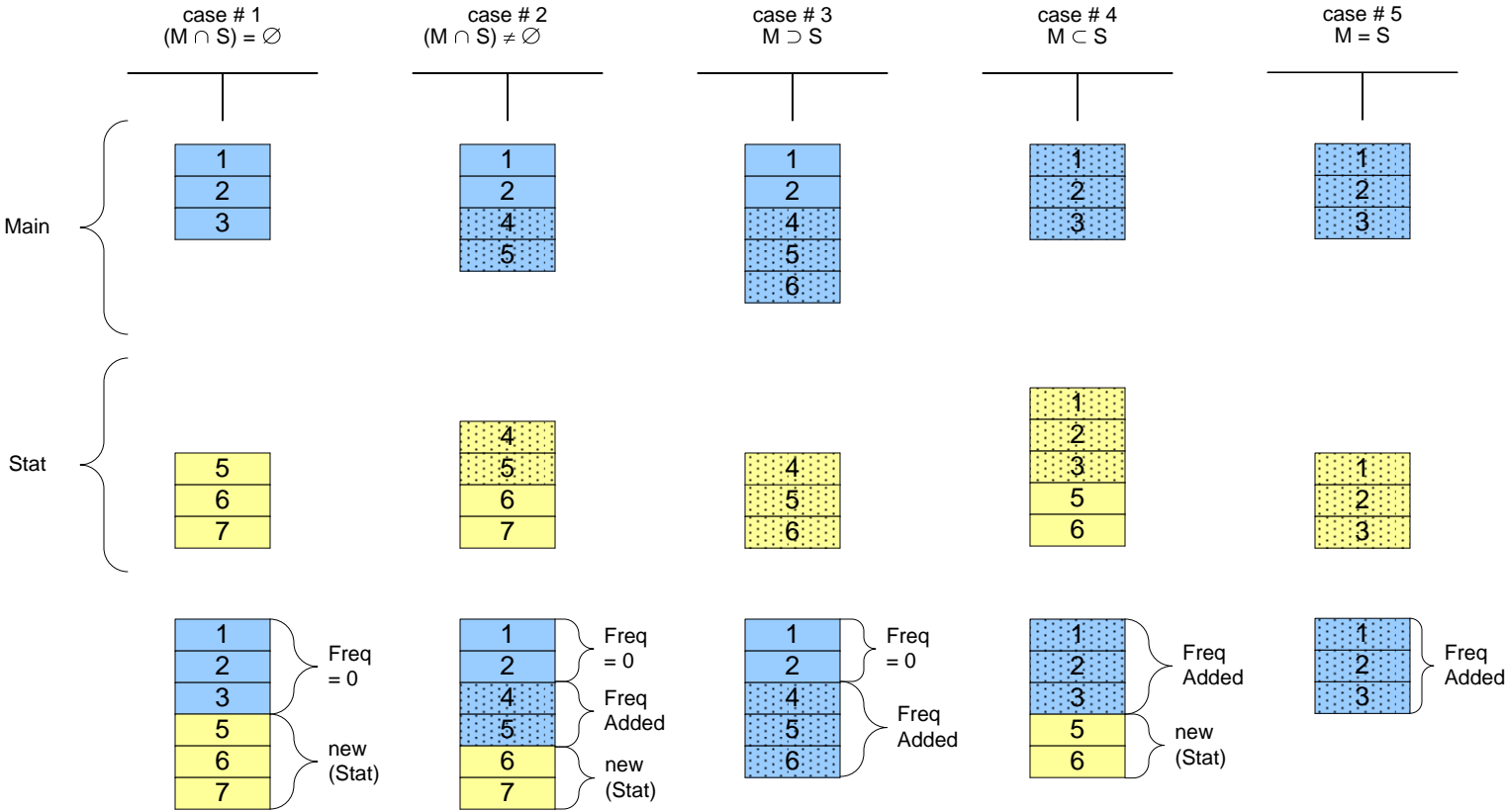# Merging catStat data (within the upper limit)
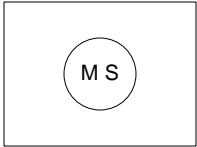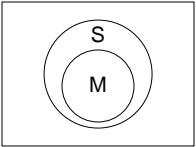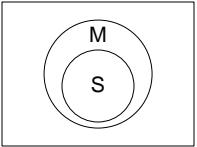
case # 1	case # 2	case # 3	case # 4	case # 5
$(M \cap S) = \varnothing$	$(M \cap S) \neq \varnothing$	$M \supset S$	$M \subset S$	$M = S$

Main

case #1: 1, 2, 3
case #2: 1, 2, 4, 5
case #3: 1, 2, 4, 5, 6
case #4: 1, 2, 3
case #5: 1, 2, 3

Stat

case #1: 5, 6, 7
case #2: 4, 5, 6, 7
case #3: 4, 5, 6
case #4: 1, 2, 3, 5, 6
case #5: 1, 2, 3

case # 1
1, 2, 3 — Freq = 0
5, 6, 7 — new (Stat)

case # 2
1, 2 — Freq = 0
4, 5 — Freq Added
6, 7 — new (Stat)

case # 3
1, 2 — Freq = 0
4, 5, 6 — Freq Added

case # 4
1, 2, 3 — Freq Added
5, 6 — new (Stat)

case # 5
1, 2, 3 — Freq Added

Operation

case # 1
Operation
1. push stat to main
2. foreach main

case # 2
Operation
1. foreach main to add freq from stat
1-1. set 0 to unique cells (1,2)
1-2. set freq from stat to non-unique cells (4,5)
2. push unique stat cells (6,7) to main
3. foreach main

case # 3
Operation
1. foreach main to add freq from stat
1-1. set 0 to unique cells (1,2)
1-2. set freq from stat to non-unique cells (4,5,6)
2. foreach main

case # 4
Operation
1. foreach main to add freq from stat
2. push unique stat cells (5,6) to main
3. foreach main

case # 5
Operation
1. foreach main to add freq from stat
2. foreach main

case # 1: M, S (disjoint)
case # 2: M, S (overlapping)
case # 3: M ⊃ S (S inside M)
case # 4: S ⊃ M (M inside S)
case # 5: M S (same)

case # 1
process M
process S
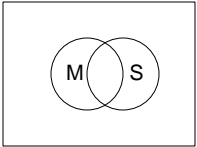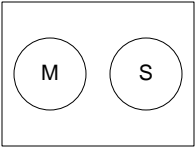
case # 2
process (M ∩ S)
diff (M, (M ∩ S))
diff (S, (M ∩ S))

case # 3
process (M ∩ S)
diff (M, (M ∩ S))

case # 4
process (M ∩ S)
diff (S, (M ∩ S))

case # 5
process M
process S