CHAPTER SUMMARY

1. **Stacks, Queues, aur Priority Queues:**
    - Ye data structures programming operations ko asaan banane ke liye istemaal hote hain.
    - In data structures mein sirf aik data item tak pahuncha ja sakta hai.
2. **Stack:**
    - Stack mein aakhiri item tak pahuncha ja sakta hai.
    - Makhsoos stack operations mein "push" (item ko stack mein daalna) aur "pop" (stack ke top se item ko hataana) shamil hain.
3. **Queue:**
    - Queue mein pehla item tak pahuncha ja sakta hai.
    - Makhsoos queue operations mein "enqueue" (item ko queue ke rear mein daalna) aur "dequeue" (queue ke front se item ko hataana) shamil hain.
    - Queue ko circular queue ki tarah implement kiya ja sakta hai, jo ke array par mabni hoti hai aur jiska index array ke akhir se shuru hota hai.
4. **Priority Queue:**
    - Priority queue mein sab se chhota (ya kabhi-kabhi sab se bada) item tak pahuncha ja sakta hai.
    - Makhsoos priority queue operations mein "insert" (item ko tarteeb e sorat mein daalna) aur "remove" (sab se chhote key wale item ko hataana) shamil hain.
5. **Implementation:**
    - Ye data structures arrays ya dusre mechanisms jaise linked lists ke saath implement kiye ja sakte hain.
6. **Infix aur Postfix Notations:**
    - Aam tor par arithmetic expressions infix notation mein likhe jaate hain, jisme operator do operands ke darmiyan likha jata hai.
    - Postfix notation mein operator do operands ke baad likha jata hai.
    - Arithmetic expressions ko postfix notation mein translate karke aur phir us expression ko evaluate karke hum arithmetic expressions ko typically solve karte hain.
7. **Stack ka Istemaal:**
    - Stack infix se postfix expression mein aur postfix expression ko evaluate karne mein istemal hota hai.

Yeh Data Structures Is Liye Use Kiye Jate Hain Kyunki:

- Data ko organize karne aur certain operations ko asaan banane mein madad karte hain.
- Programming mein flexibility aur optimization ko barhane mein madad karte hain.