MemoryAllo-First Fit – 7

```
import java.util.*;


class FirstFit {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);


        System.out.print("Enter number of memory blocks: ");
        int nb = sc.nextInt();
        int block[] = new int[nb], rem[] = new int[nb];


        System.out.println("Enter block sizes:");
        for(int i=0;i<nb;i++){
            block[i] = sc.nextInt();
            rem[i] = block[i];
        }


        System.out.print("Enter number of processes: ");
        int np = sc.nextInt();
        int process[] = new int[np], alloc[] = new int[np];


        System.out.println("Enter process sizes:");
        for(int i=0;i<np;i++){
            process[i] = sc.nextInt();
            alloc[i] = -1;
        }


        // First Fit Allocation
        for(int i=0;i<np;i++){
            for(int j=0;j<nb;j++){
                if(rem[j] >= process[i]){
                    alloc[i] = j;
                    rem[j] -= process[i];
                    break;
                }
            }
        }

        // Output Allocation Table
        System.out.println("\nProcess\tSize\tBlock Allocated");
        for(int i=0;i<np;i++){
            if(alloc[i] != -1)
                System.out.println("P"+(i+1)+"\t"+process[i]+"\tBlock "+(alloc[i]+1));
            else
                System.out.println("P"+(i+1)+"\t"+process[i]+"\tNot Allocated");
        }

        // Display unused/fragmented memory
        System.out.println("\nBlock\tInitial Size\tRemaining\tFragmentation");
        int totalFrag = 0;
        for(int i=0;i<nb;i++){
            System.out.println("B"+(i+1)+"\t"+block[i]+"\t\t"+rem[i]+"\t\t"+rem[i]);
            totalFrag += rem[i];
        }

        System.out.println("\nTotal Fragmented/Unused Memory: " + totalFrag);
    }
}
```