SOAL

- Write the algorithm of queue mechanism using
  - Single linked list
  - Array alternative 1
  - Array alternative 2
  - Array alternative 3
- Use the same info type as before
- Each member is to write 1 mechanism

JAWABAN :

- Single linked list
  - Simpan 2 reference: front → … → … →back
  - Enqueue(Benda x):
    - ✓ Buat sebuah node baru N yang datanya x
    - ✓ If queue sebelumnya empty, maka front = back = N
    - ✓ Else tambahkan N di akhir (dan update back)
  - Dequeue():
    - ✓ Hapus elemen pertama: front = front.next

- Array alternative 1
  Algoritma :

  ```
  Add(P,4)
  Add(P,3)
  Add(P,6)
  Del(P)
  Del(P)
  Add(P,2)
  Del(P)
  Del(P)
  ```

1	2	3	4	5
4	3	6		

Head	1		Tail	3

Is Empty	True

1	2	3	4	5
6				

Head	1		Tail	1

Is Empty	True

1	2	3	4	5
2	6			

Head	1		Tail	2

Is Empty	True

1	2	3	4	5

Head	0		Tail	0

Is Empty	False

- Array alternative 2
  Algoritma :

Add(P,5)
Add(P,2)
Add(P,3)
Del(P)
Del(P)
Add(P,6)
Del(P)
Add(P,9)
Add(P,7)
Del(P)
Del(P)
Del(P)

1	2	3	4	5
5	2	3		

Head	1		Tail	3

Is Empty	True

1	2	3	4	5
3				

Head	1		Tail	1

Is Empty	True

1	2	3	4	5
6	3			

Head	1		Tail	2

Is Empty	True

1	2	3	4	5
3				

Head	1		Tail	1

Is Empty	True

1	2	3	4	5
7	9	3		

Head	1		Tail	3

Is Empty	True

1	2	3	4	5

Head	0		Tail	0

Is Empty	False

- Array alternative 3
  Algoritma :

  ```
  Add(P,1)
  Add(P,5)
  Add(P,2)
  Del(P)
  Del(P)
  Add(P,7)
  Del(P)
  Add(P,4)
  Add(P,3)
  Add(P,9)
  Del(P)
  Del(P)
  Del(P)
  Del(P)
  ```

1	2	3	4	5
1	5	2		

Head	1		Tail	3

Is Empty	True

1	2	3	4	5
2				

Head	1		Tail	1

Is Empty	True

1	2	3	4	5
7	2			

Head	1		Tail	2

Is Empty	True

1	2	3	4	5
2				

Head	1		Tail	1

Is Empty	True

1	2	3	4	5
9	3	4	2	

Head	1		Tail	4

Is Empty	True

1	2	3	4	5

Head	0		Tail	0

Is Empty	False