



Pertemuan – 5

Antrian / Queue

Dipersiapkan oleh : Boldson Herdianto S., S.Kom., MMSI.

Kita lanjutkan
untuk yang satu ini



ANTRIAN / QUEUE

Struktur Data

☀ Definisi :

- struktur data (mirip stack) yang memperbolehkan penyisipan di belakang (rear) dan penghapusan elemen di depan (front)

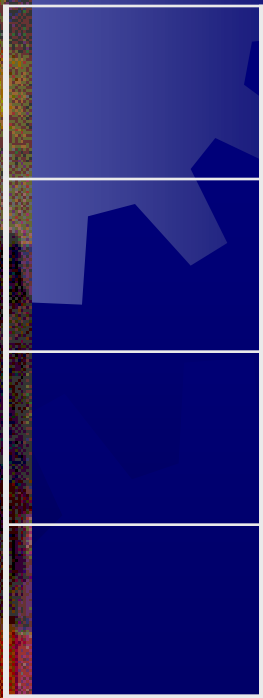
☀ Contoh :

- Penjualan karcis kereta, bioskop
- Penjadualan pencetakan (spooling system)
- Penjadualan pemakaian CPU
- Pemakaian I/O pada sistem komputer
- Penyimpan barang di Apotek

MODEL ANTRIAN / QUEUE

Struktur Data

Kosong



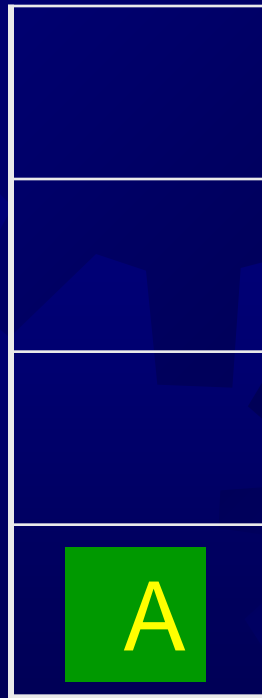
Belakang

0

Depan

0

1 Elemen



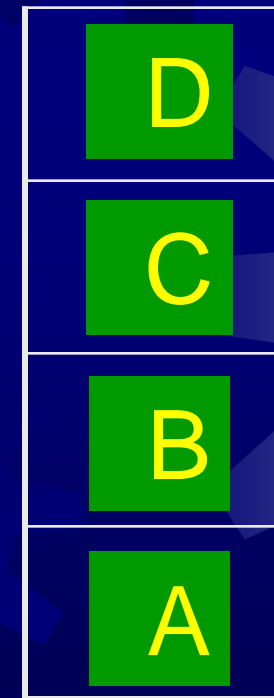
Belakang

1

Depan

1

4 Elemen



Belakang

4

Depan

1

OPERASI DASAR

Antrian

Dua operasi dasar ANTRIAN :

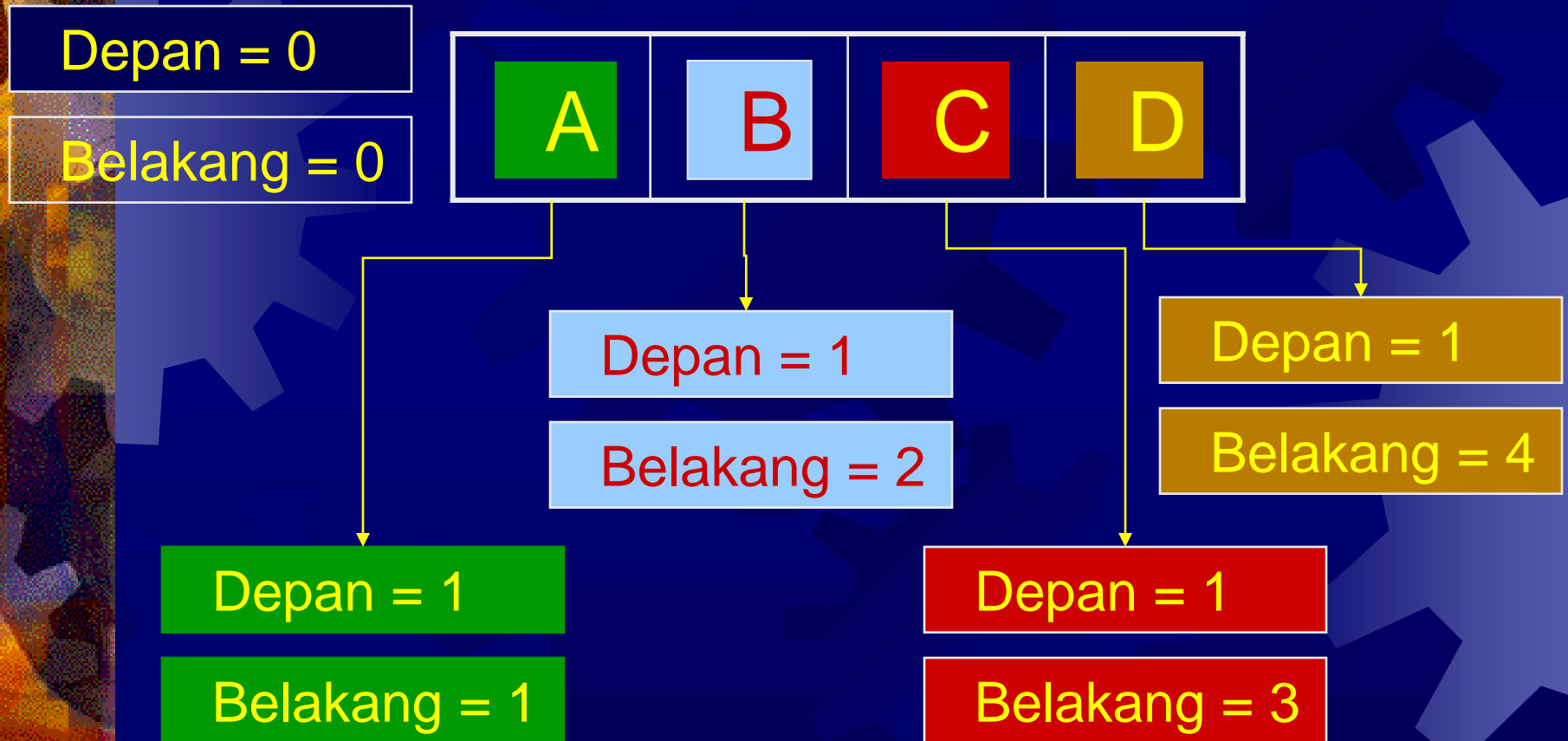
✓ TAMBAH

✓ AMBIL



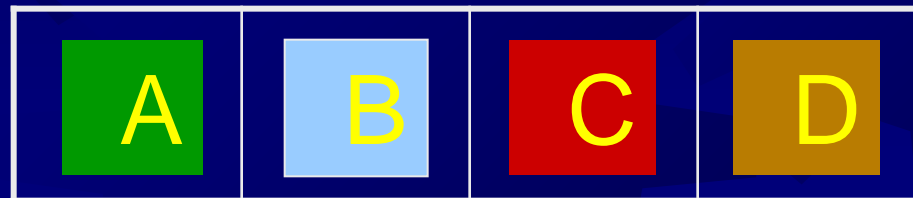
TAMBAH ELEMEN

Struktur Data Antrian



AMBIL ELEMEN

Struktur Data Antrian



Depan = 1

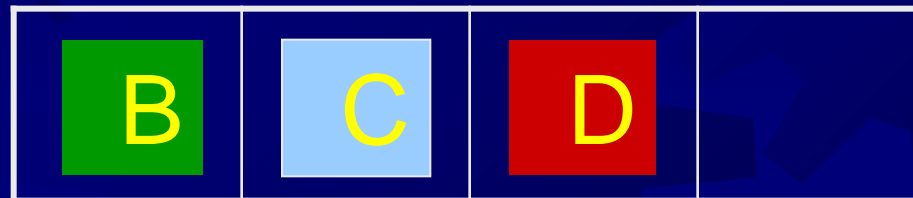
Belakang = 3

Ambil 1 elemen

Geser antrian

AMBIL ELEMEN

Struktur Data Antrian



Depan = 1

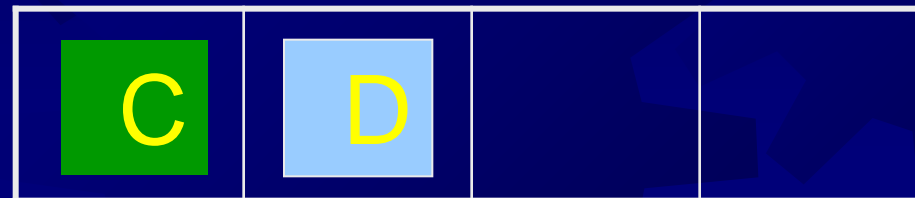
Belakang = 2

Ambil 1 elemen

Geser antrian

AMBIL ELEMEN

Struktur Data Antrian



Depan = 1

Belakang = 1

Ambil 1 elemen

Geser antrian

AMBIL ELEMEN

Struktur Data Antrian



KAMUS DATA

Antrian

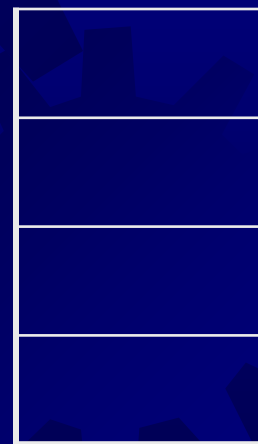
Kamus Data :

Q : array [1..4] of Char

Depan : Integer

Belakang : Integer

Q



Belakang

0

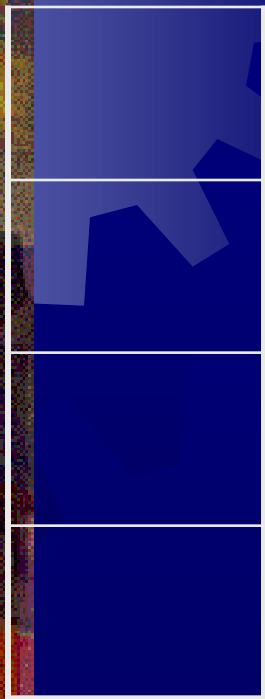
Depan

0

Kondisi Antrian

Struktur Data

Kosong



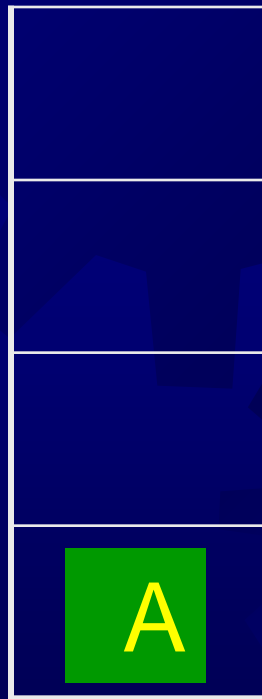
Belakang

0

Depan

0

1 Elemen



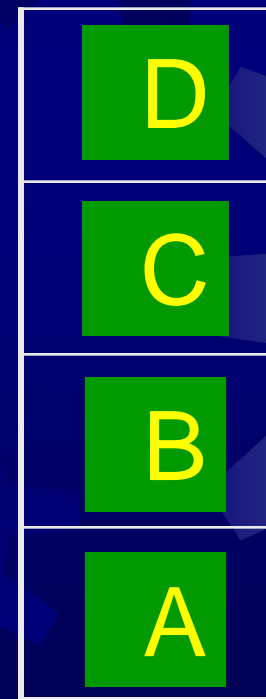
Belakang

1

Depan

1

Penuh



Belakang

4

Depan

1

ANTRIAN SIRKULER

Antrian

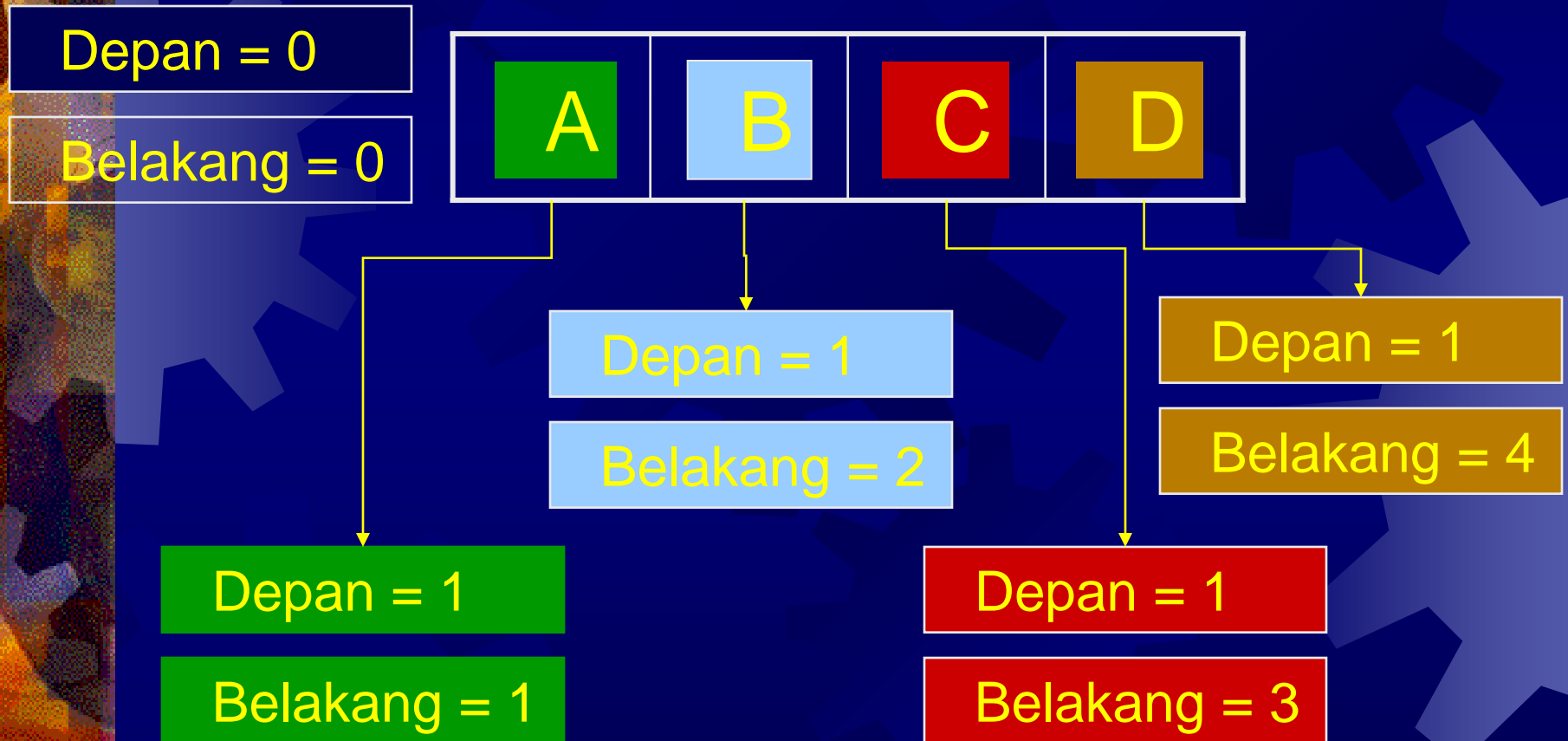
Model ini sama dengan antrian biasa,
hanya saja :

TIDAK ADA PERGESERAN



TAMBAH ELEMEN

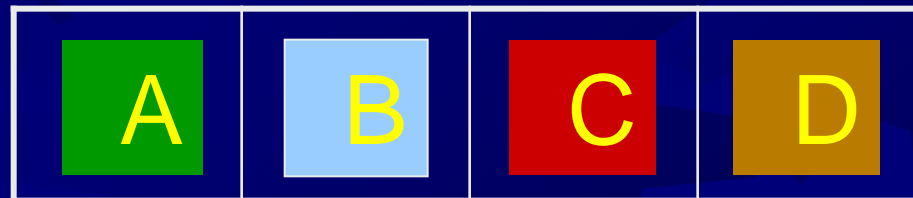
Antrian Sirkuler



AMBIL ELEMEN

Antrian Sirkuler

Ambil 1 elemen



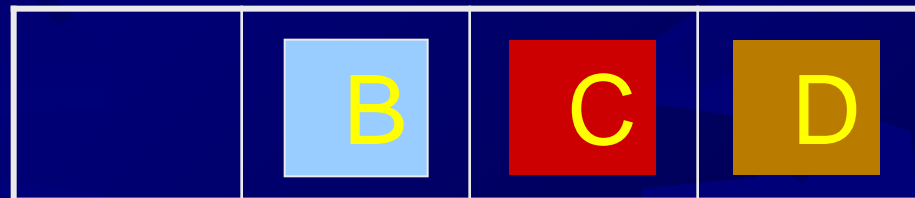
Depan = 2

Belakang = 4

AMBIL ELEMEN

Antrian Sirkuler

Ambil 1 elemen



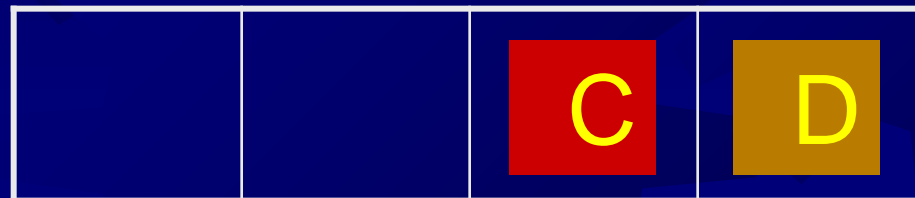
Depan = 3

Belakang = 4

AMBIL ELEMEN

Antrian Sirkuler

Ambil 1 elemen



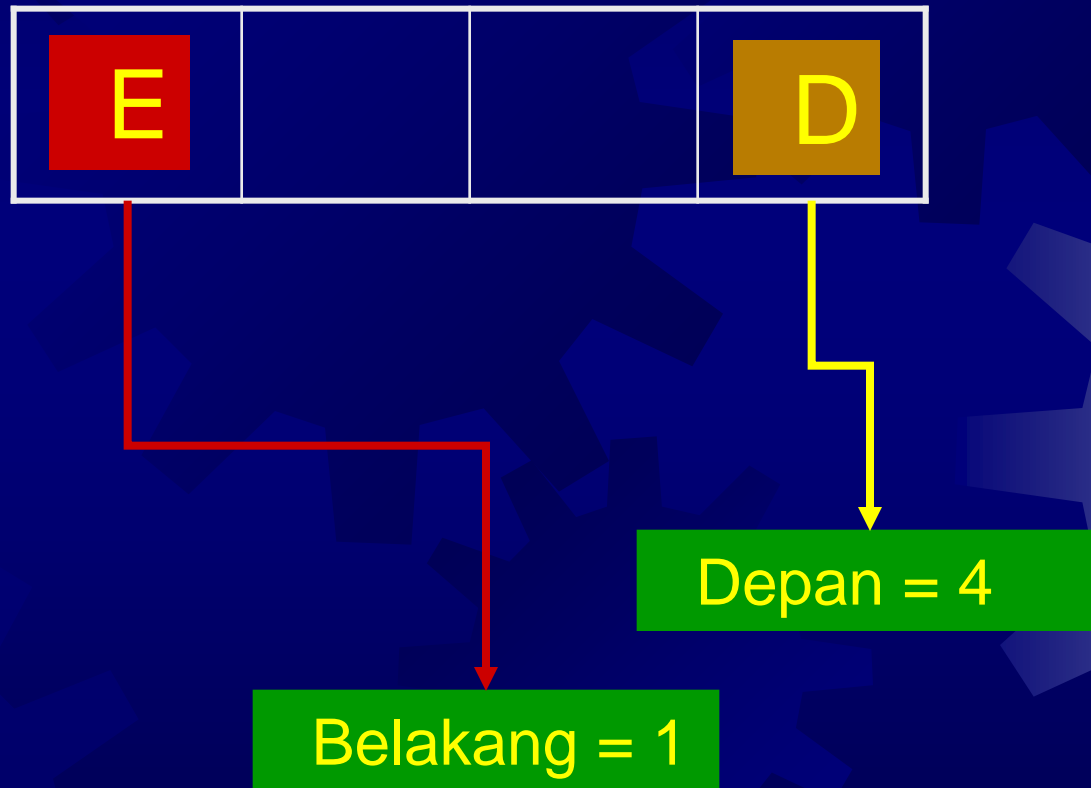
Depan = 4

Belakang = 4

TAMBAH ELEMEN

Antrian Sirkuler

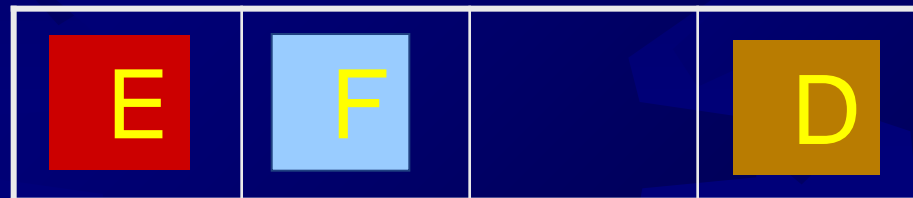
Tambah 1 elemen



TAMBAH ELEMEN

Antrian Sirkuler

Tambah 1 elemen



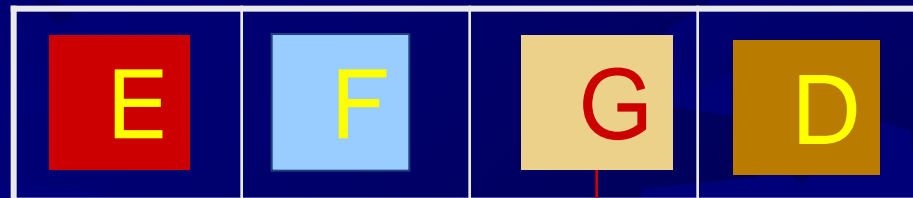
Depan = 4

Belakang = 2

TAMBAH ELEMEN

Antrian Sirkuler

Tambah 1 elemen



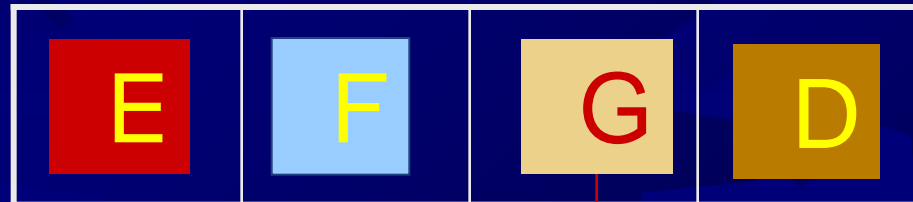
Depan = 4

Belakang = 3

TAMBAH ELEMEN

Antrian Sirkuler

Tambah 1 elemen



Antrian Overflow

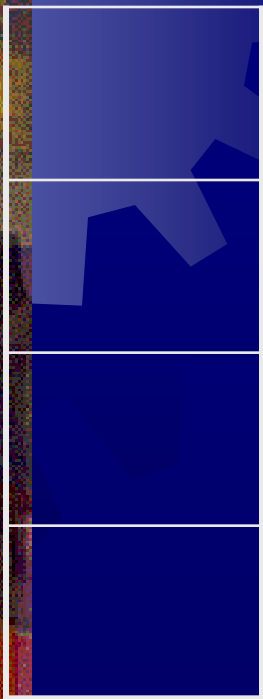
Depan = 4

Belakang = 3

Kondisi Antrian Sirkuler

Struktur Data

Kosong



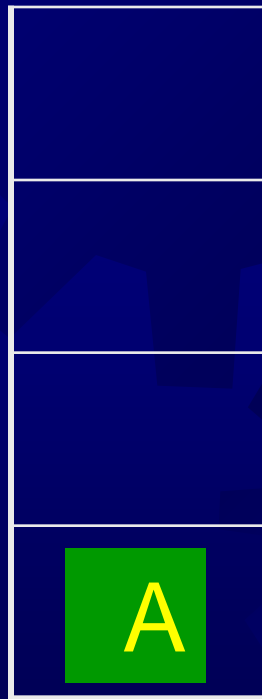
Belakang

0

Depan

0

1 Elemen



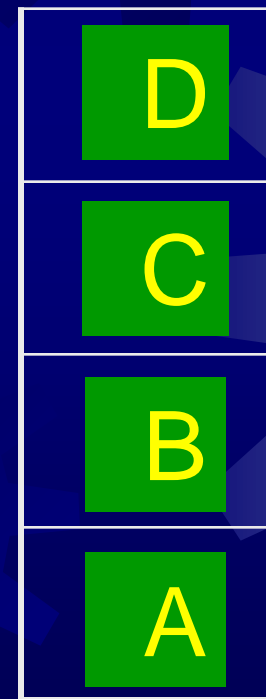
Belakang

1

Depan

1

Penuh



Belakang

4

Depan

1