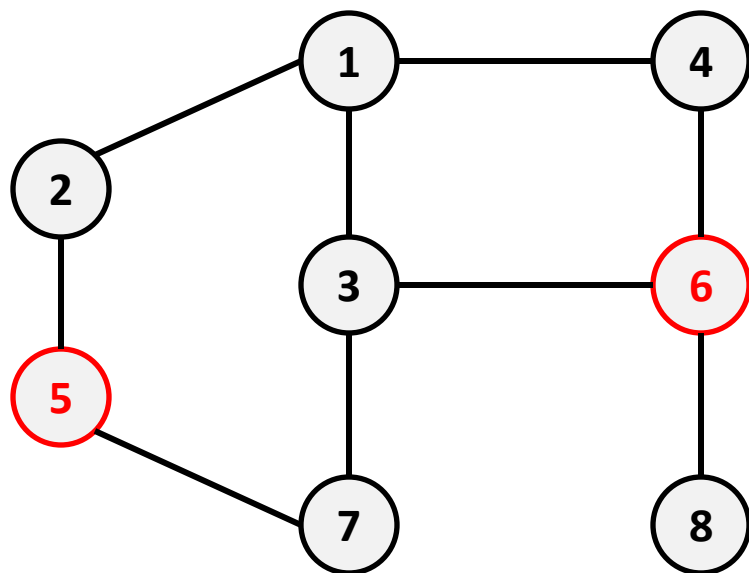


# Estado Inicial (antes da busca)



**$A = 5$**

**$B = 6$**

***vs* (marca se foi visitado)**

0	0	0	0	0	0	0	0
1	2	3	4	5	6	7	8

***va* (guarda o antecessor)**

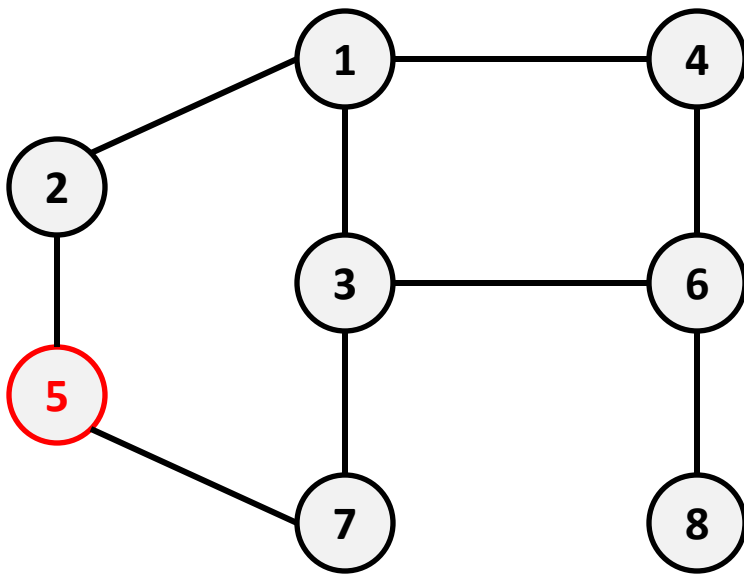
0	0	0	0	0	0	0	0
1	2	3	4	5	6	7	8

***Fila***

---

---

# Marca 5 como visitado



**$A = 5$**

**$B = 6$**

***vs* (marca se foi visitado)**

0	0	0	0	1	0	0	0
1	2	3	4	5	6	7	8

***va* (guarda o antecessor)**

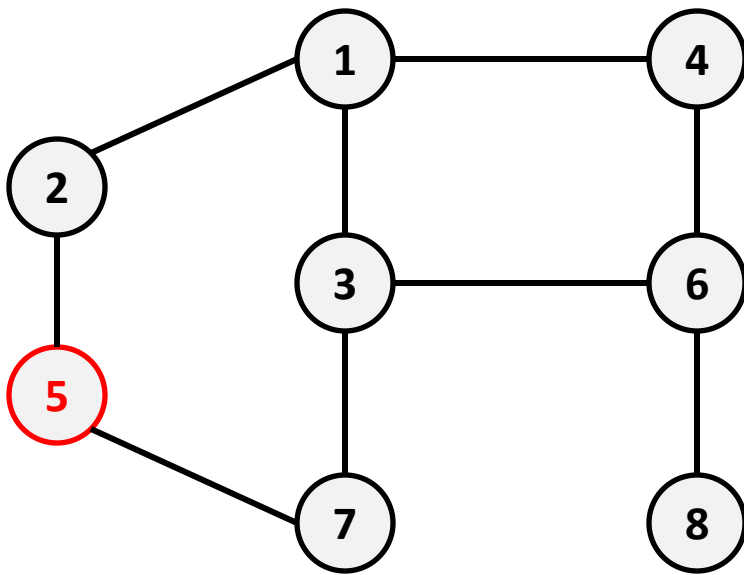
0	0	0	0	0	0	0	0
1	2	3	4	5	6	7	8

***Fila***

---

---

# Inserir 5 na Fila



**$A = 5$**

**$B = 6$**

**vs (marca se foi visitado)**

0	0	0	0	1	0	0	0
1	2	3	4	5	6	7	8

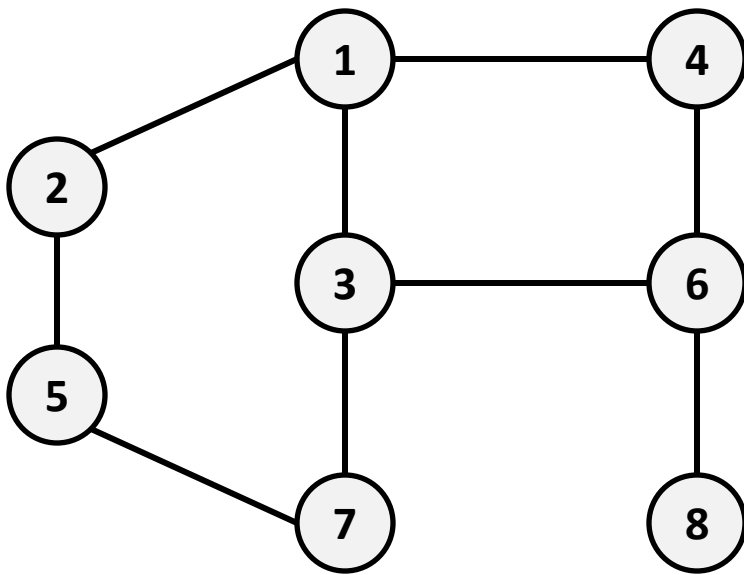
**va (guarda o antecessor)**

0	0	0	0	0	0	0	0
1	2	3	4	5	6	7	8

***Fila***



# Remove 5 da Fila



**$A = 5$**

**$B = 6$**

**5**

**vs (marca se foi visitado)**

0	0	0	0	1	0	0	0
1	2	3	4	5	6	7	8

**va (guarda o antecessor)**

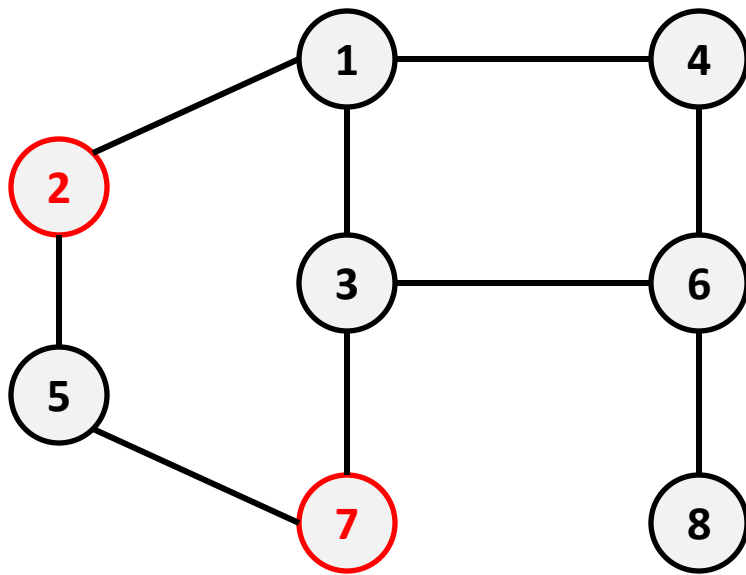
0	0	0	0	0	0	0	0
1	2	3	4	5	6	7	8

***Fila***

---

---

# Seleciona adjacentes a 5 (e que não foram visitados)



**$A = 5$**

**$B = 6$**



**vs (marca se foi visitado)**

0	0	0	0	1	0	0	0
1	2	3	4	5	6	7	8

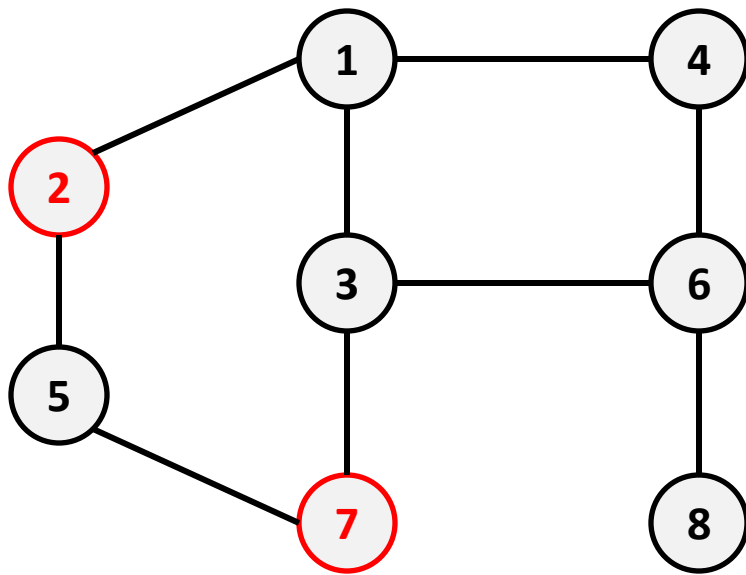
**va (guarda o antecessor)**

0	0	0	0	0	0	0	0
1	2	3	4	5	6	7	8

***Fila***



# Marca 2 e 7 como visitados



**$A = 5$**

**$B = 6$**



**vs (marca se foi visitado)**

0	1	0	0	1	0	1	0
1	2	3	4	5	6	7	8

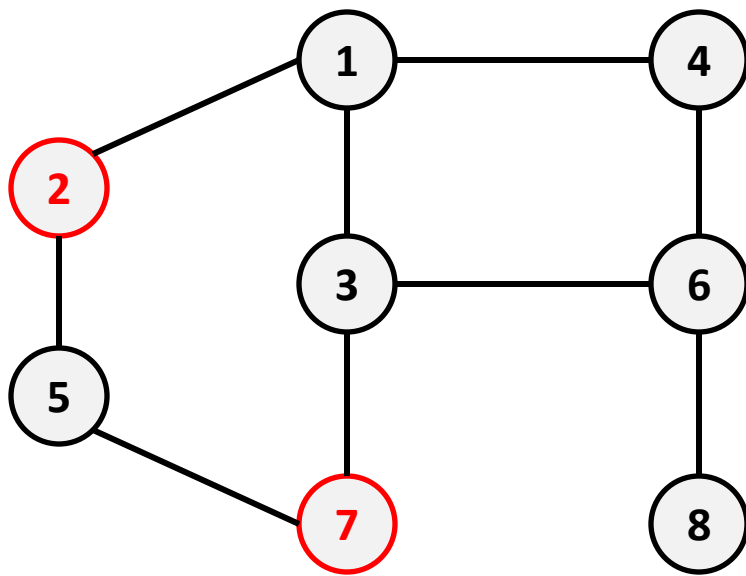
**va (guarda o antecessor)**

0	0	0	0	0	0	0	0
1	2	3	4	5	6	7	8

***Fila***



# 5 torna-se antecessor de 2 e 7



**$A = 5$**

**$B = 6$**



***vs* (marca se foi visitado)**

0	1	0	0	1	0	1	0
1	2	3	4	5	6	7	8

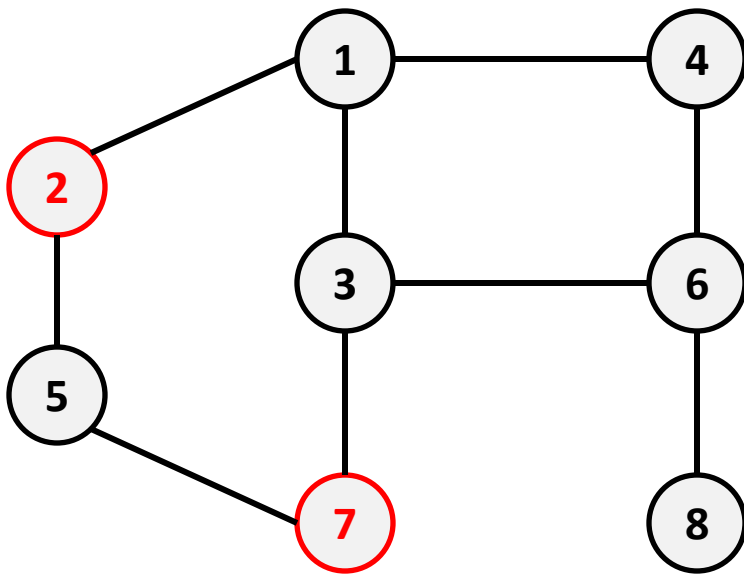
***va* (guarda o antecessor)**

0	5	0	0	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***



# Inserir 2 e 7 na Fila



**$A = 5$**

**$B = 6$**



***vs* (marca se foi visitado)**

0	1	0	0	1	0	1	0
1	2	3	4	5	6	7	8

***va* (guarda o antecessor)**

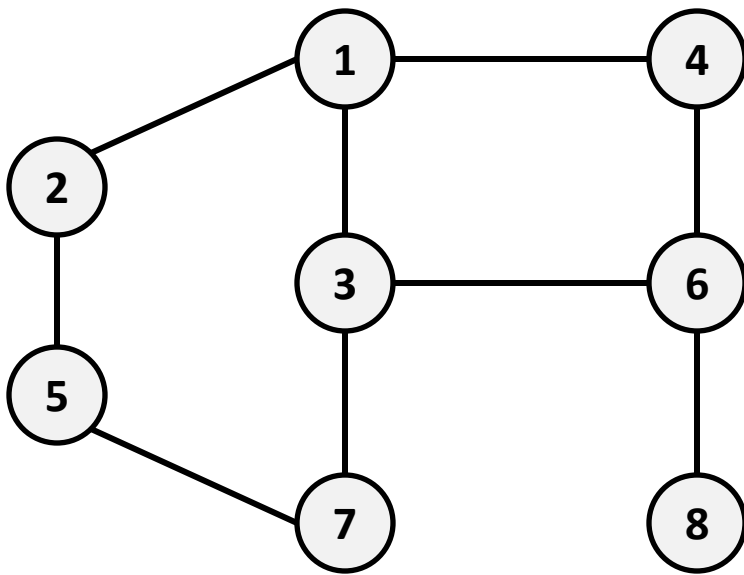
0	5	0	0	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***





# Remove 2 da Fila



**$A = 5$**

**$B = 8$**

**2**

**vs (marca se foi visitado)**

0	1	0	0	1	0	1	0
1	2	3	4	5	6	7	8

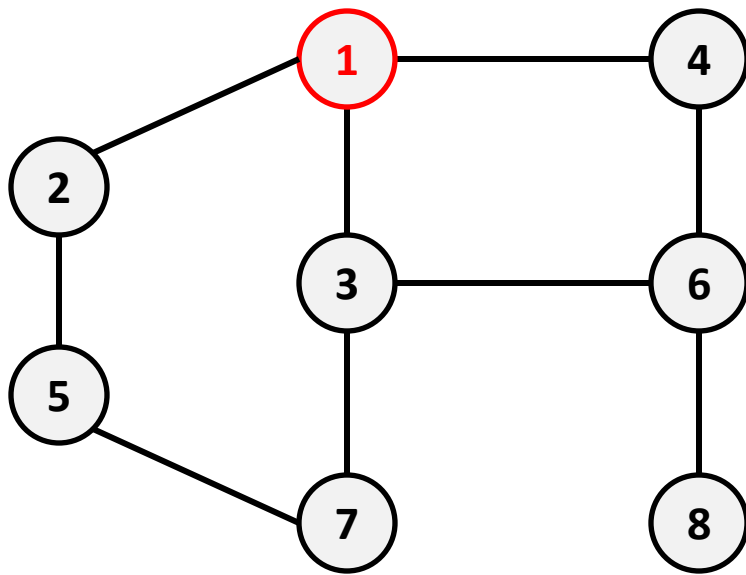
**va (guarda o antecessor)**

0	5	0	0	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***

**7**

# Seleciona adjacentes a 2 (e que não foram visitados)



**$A = 5$**

**$B = 8$**

***vs* (marca se foi visitado)**

0	1	0	0	1	0	1	0
1	2	3	4	5	6	7	8

***va* (guarda o antecessor)**

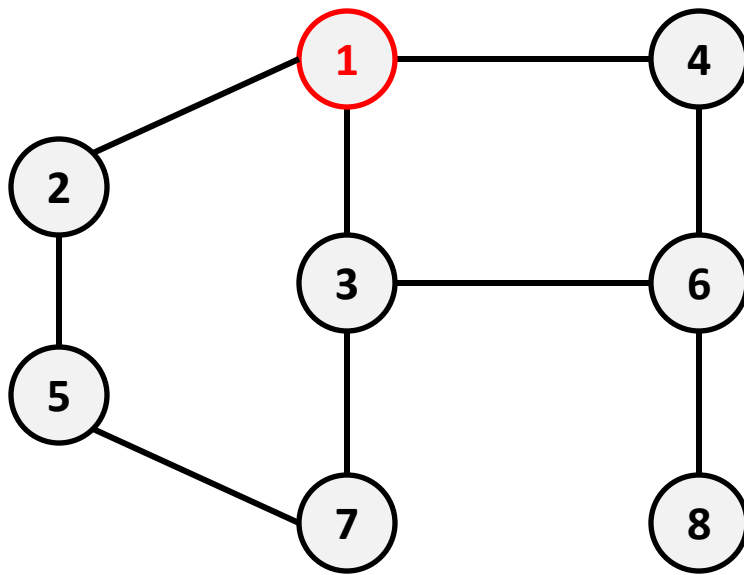
0	5	0	0	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***

2

7

# Marca 1 como visitado



**$A = 5$**

**$B = 6$**



**vs (marca se foi visitado)**

<b>1</b>	1	0	0	1	0	1	0
1	2	3	4	5	6	7	8

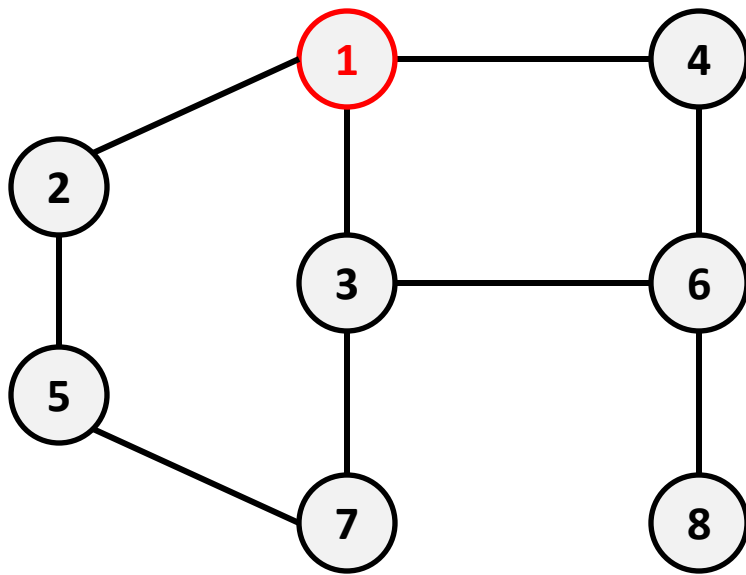
**va (guarda o antecessor)**

0	5	0	0	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***



# 2 torna-se antecessor de 1



**$A = 5$**

**$B = 6$**



***vs* (marca se foi visitado)**

1	1	0	0	1	0	1	0
1	2	3	4	5	6	7	8

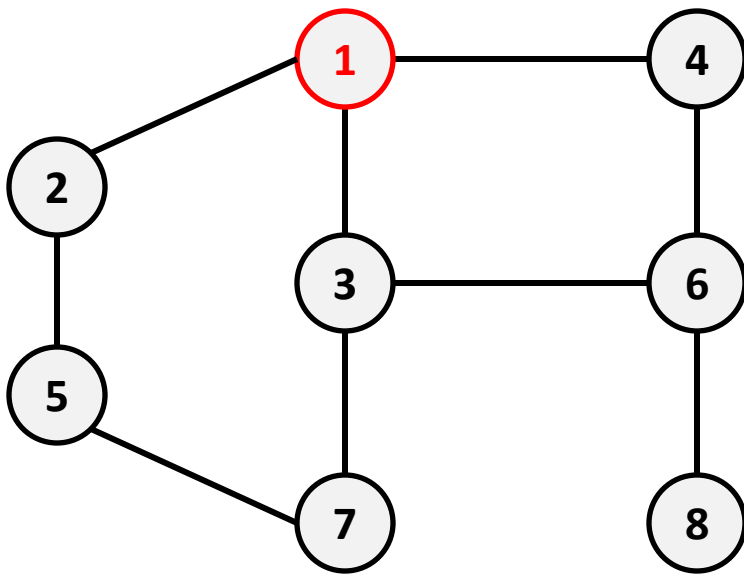
***va* (guarda o antecessor)**

2	5	0	0	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***



# Inserir 1 na Fila



**$A = 5$**

**$B = 6$**



**vs (marca se foi visitado)**

1	1	0	0	1	0	1	0
1	2	3	4	5	6	7	8

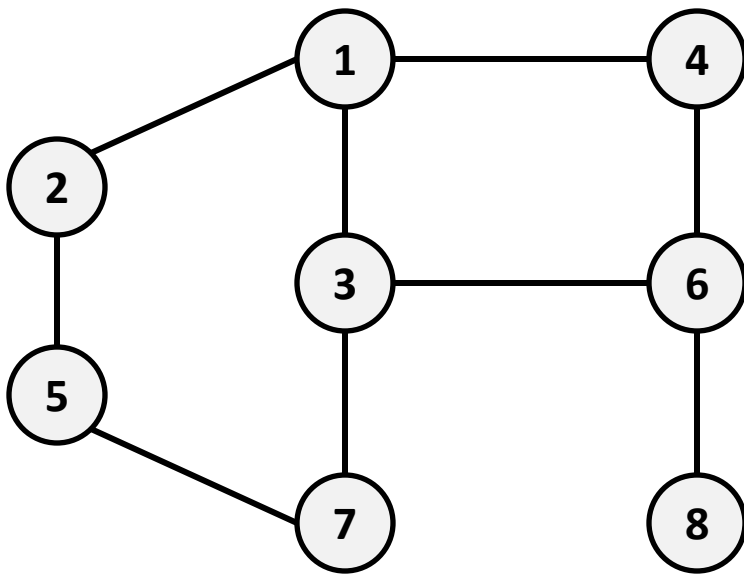
**va (guarda o antecessor)**

2	5	0	0	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***



# Remove 7 da Fila



**$A = 5$**

**$B = 6$**

**7**

**vs (marca se foi visitado)**

1	1	0	0	1	0	1	0
1	2	3	4	5	6	7	8

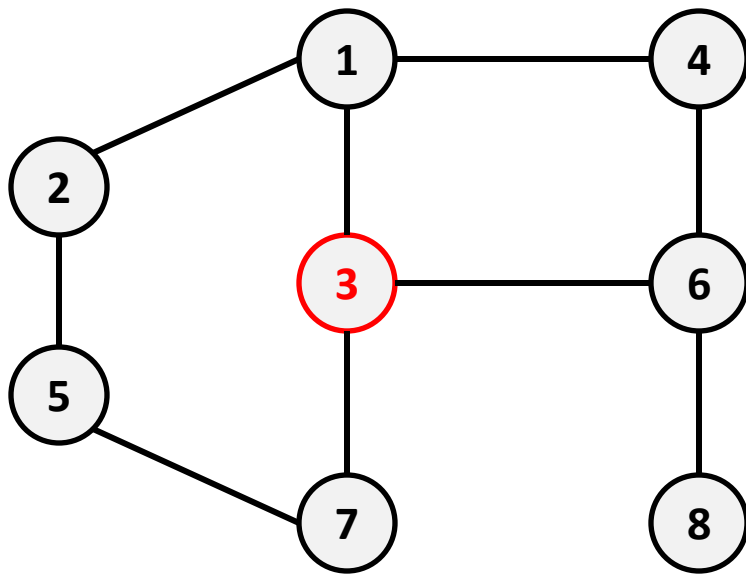
**va (guarda o antecessor)**

2	5	0	0	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***

**1**

# Seleciona adjacentes a 7 (e que não foram visitados)



**$A = 5$**

**$B = 6$**



**vs (marca se foi visitado)**

1	1	0	0	1	0	1	0
1	2	3	4	5	6	7	8

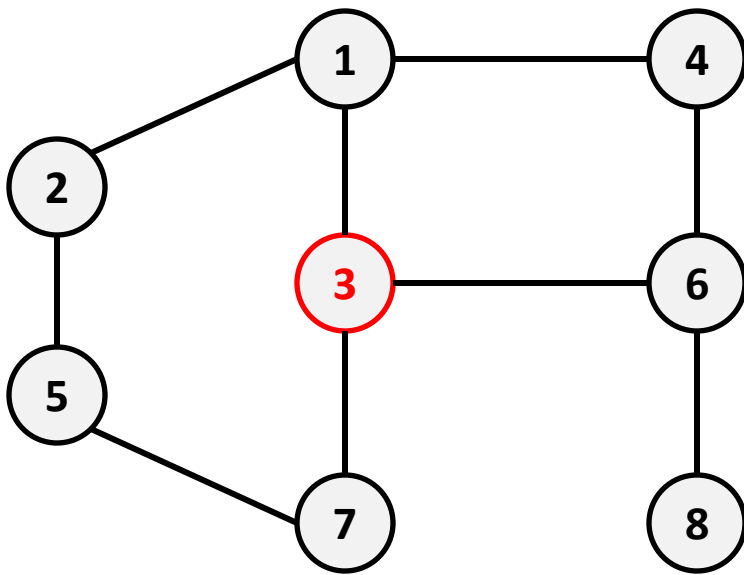
**va (guarda o antecessor)**

2	5	0	0	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***



# Marca 3 como visitado



**$A = 5$**

**$B = 6$**



**vs (marca se foi visitado)**

1	1	1	0	1	0	1	0
1	2	3	4	5	6	7	8

**va (guarda o antecessor)**

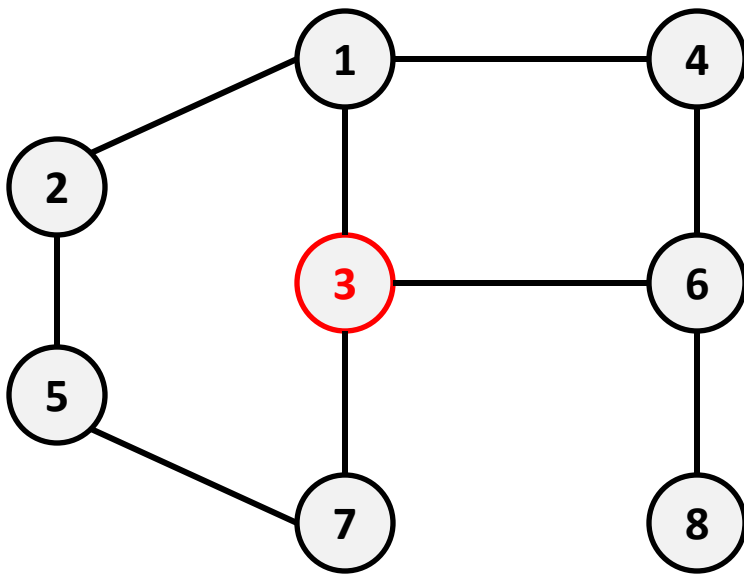
2	5	0	0	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***





# 7 torna-se antecessor de 3



**$A = 5$**

**$B = 6$**



***vs* (marca se foi visitado)**

1	1	1	0	1	0	1	0
1	2	3	4	5	6	7	8

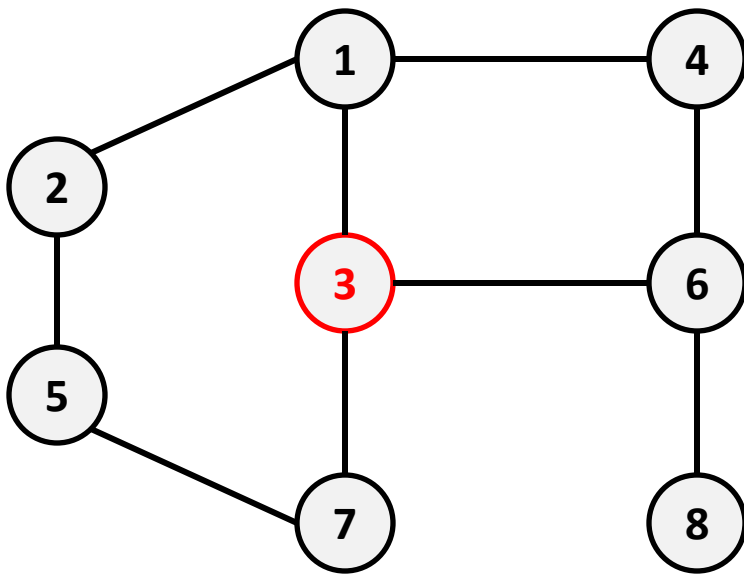
***va* (guarda o antecessor)**

2	5	7	0	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***



# Inserir 3 na Fila



**$A = 5$**

**$B = 6$**



**vs (marca se foi visitado)**

1	1	1	0	1	0	1	0
1	2	3	4	5	6	7	8

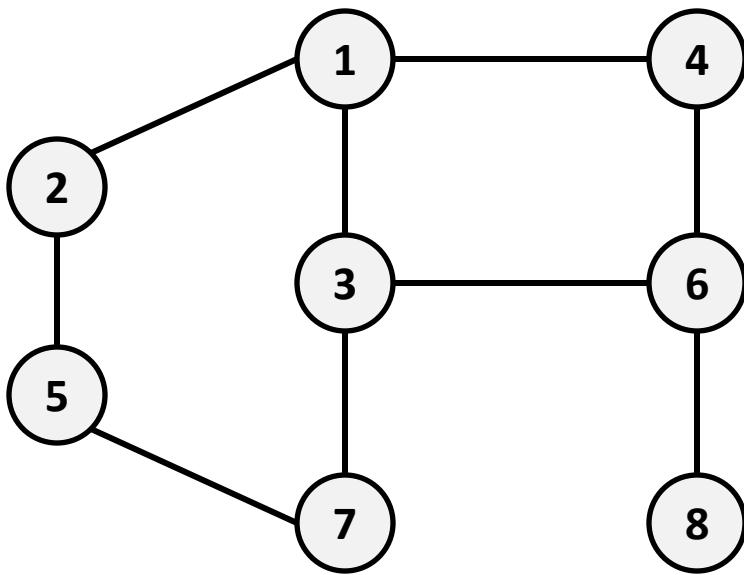
**va (guarda o antecessor)**

2	5	7	0	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***



# Remove 1 da Fila



**$A = 5$**

**$B = 6$**

**1**

**vs (marca se foi visitado)**

1	1	1	0	1	0	1	0
1	2	3	4	5	6	7	8

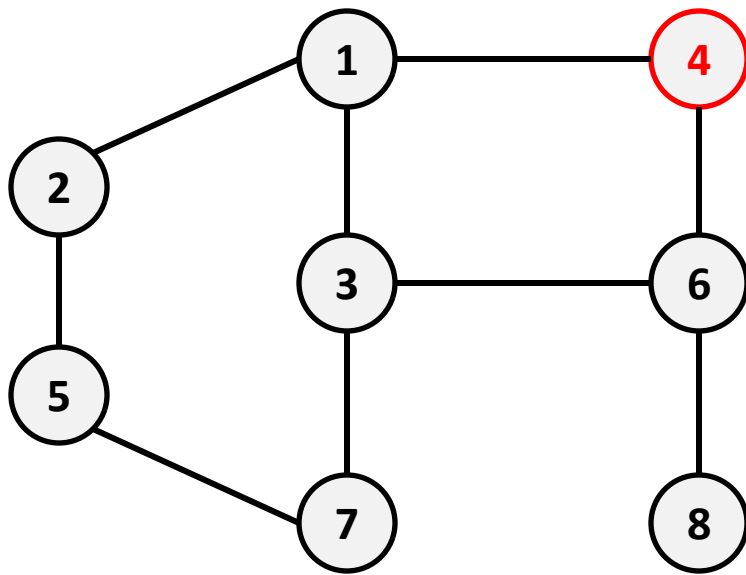
**va (guarda o antecessor)**

2	5	7	0	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***

**3**

# Seleciona adjacentes a 1 (e que não foram visitados)



**$A = 5$**

**$B = 6$**

***vs* (marca se foi visitado)**

1	1	1	0	1	0	1	0
1	2	3	4	5	6	7	8

***va* (guarda o antecessor)**

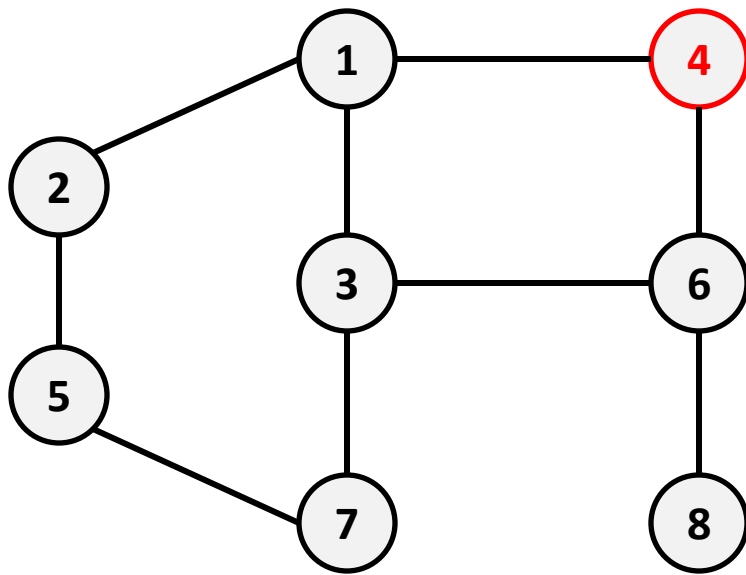
2	5	7	0	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***

1

3

# Marca 4 como visitado



**$A = 5$**

**$B = 6$**



**vs (marca se foi visitado)**

1	1	1	1	1	0	1	0
1	2	3	4	5	6	7	8

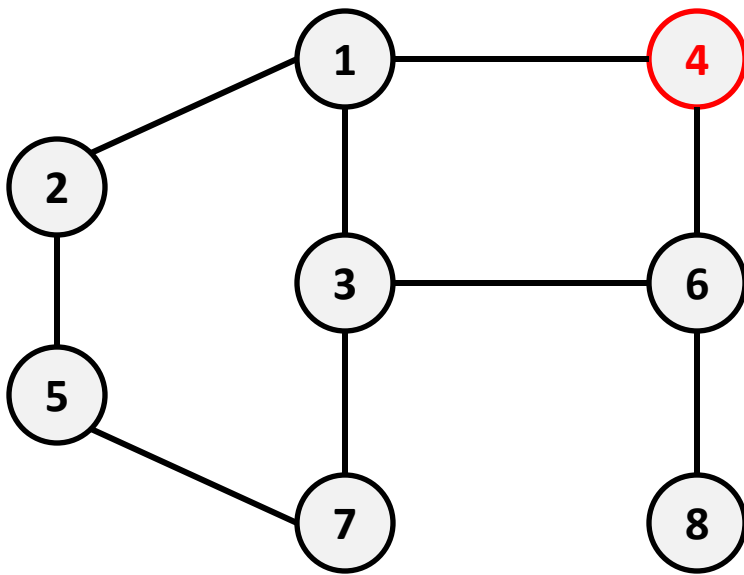
**va (guarda o antecessor)**

2	5	7	0	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***



# 1 torna-se antecessor de 4



**$A = 5$**

**$B = 6$**



***vs* (marca se foi visitado)**

1	1	1	1	1	0	1	0
1	2	3	4	5	6	7	8

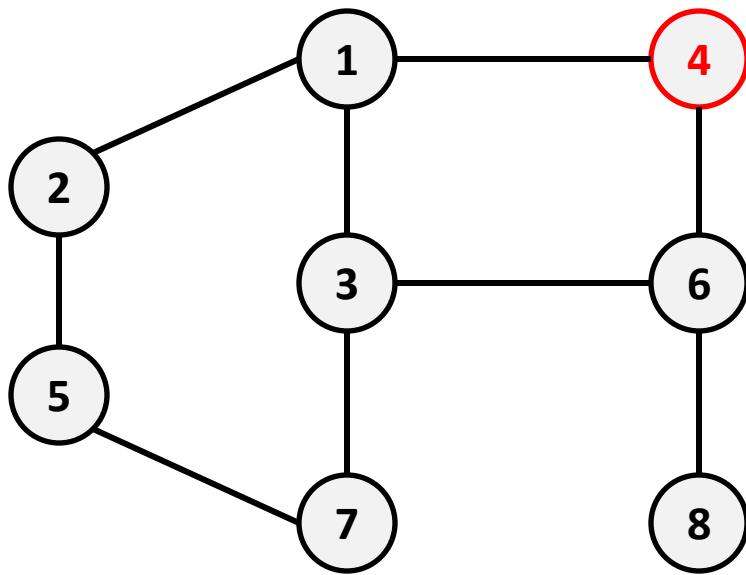
***va* (guarda o antecessor)**

2	5	7	1	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***



# Inserir 4 na Fila



**$A = 5$**

**$B = 6$**



**vs (marca se foi visitado)**

1	1	1	1	1	0	1	0
1	2	3	4	5	6	7	8

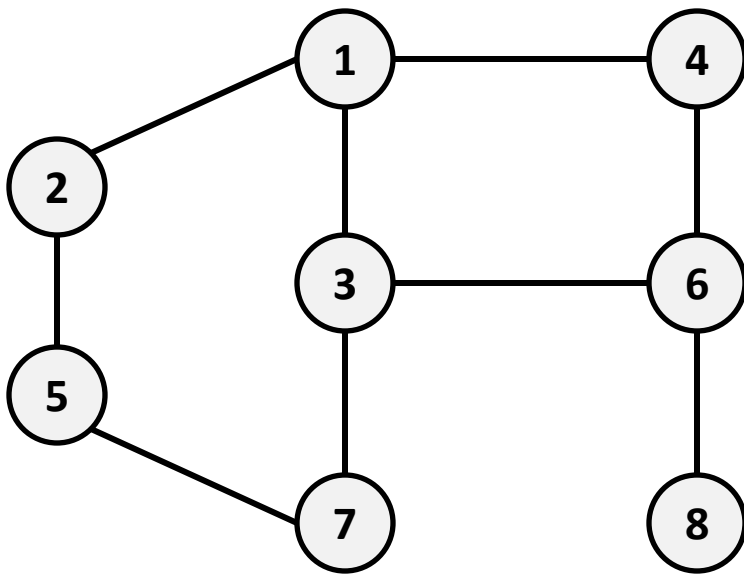
**va (guarda o antecessor)**

2	5	7	1	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***



# Remove 3 da Fila



**$A = 5$**

**$B = 6$**

**3**

**vs (marca se foi visitado)**

1	1	1	1	1	0	1	0
1	2	3	4	5	6	7	8

**va (guarda o antecessor)**

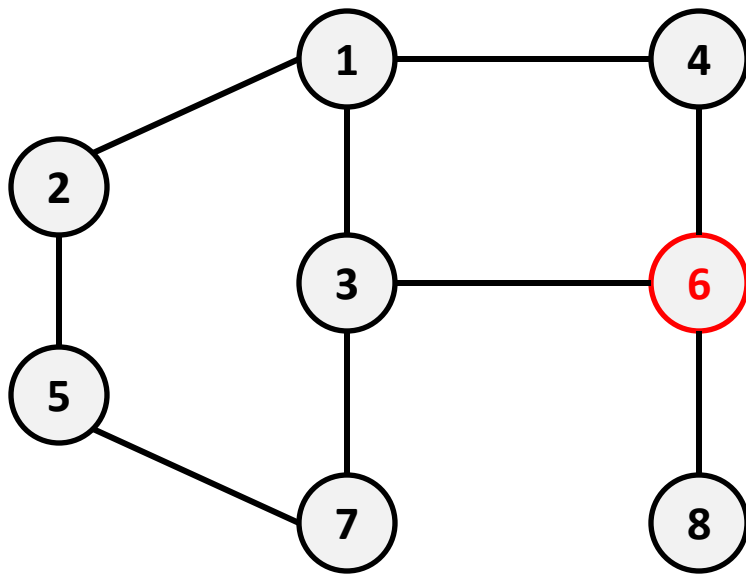
2	5	7	1	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***

**4**



# Seleciona adjacentes a 3 (e que não foram visitados)



**$A = 5$**

**$B = 6$**



***vs* (marca se foi visitado)**

1	1	1	1	1	0	1	0
1	2	3	4	5	6	7	8

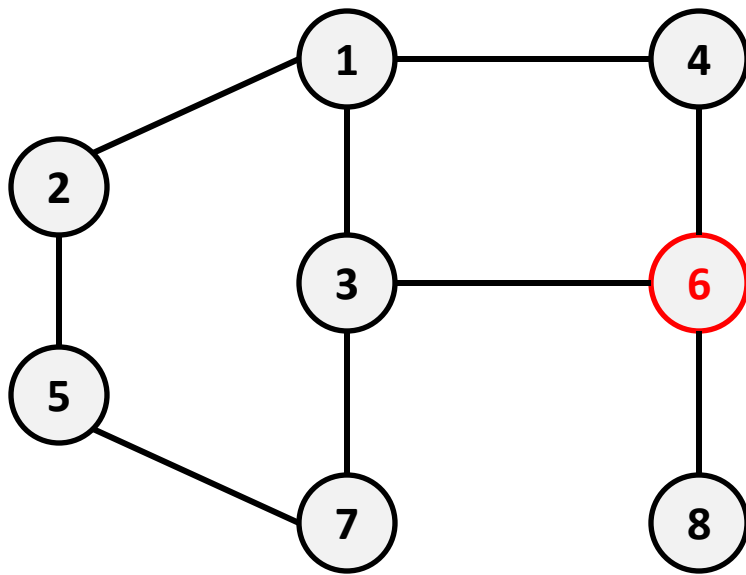
***va* (guarda o antecessor)**

2	5	7	1	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***



# Marca 6 como visitado



**$A = 5$**

**$B = 6$**



**vs (marca se foi visitado)**

1	1	1	1	1	1	1	0
1	2	3	4	5	6	7	8

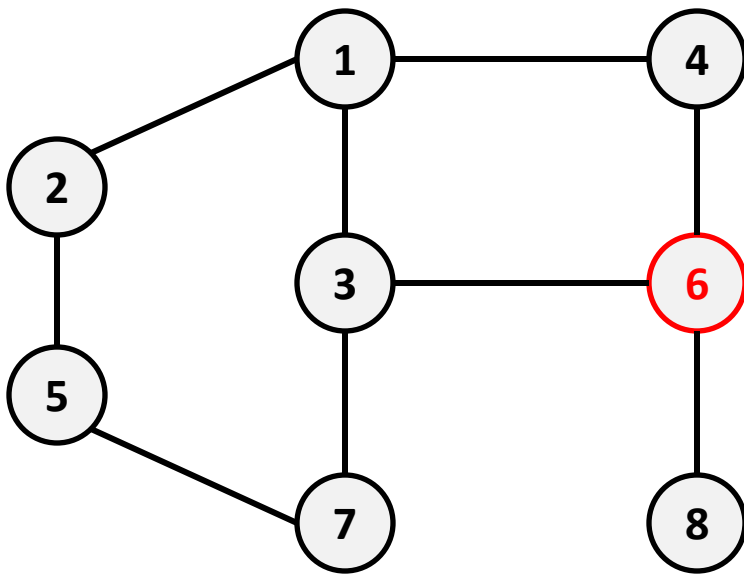
**va (guarda o antecessor)**

2	5	7	1	0	0	5	0
1	2	3	4	5	6	7	8

***Fila***



# 3 torna-se antecessor de 6



**$A = 5$**

**$B = 6$**



***vs* (marca se foi visitado)**

1	1	1	1	1	1	1	0
1	2	3	4	5	6	7	8

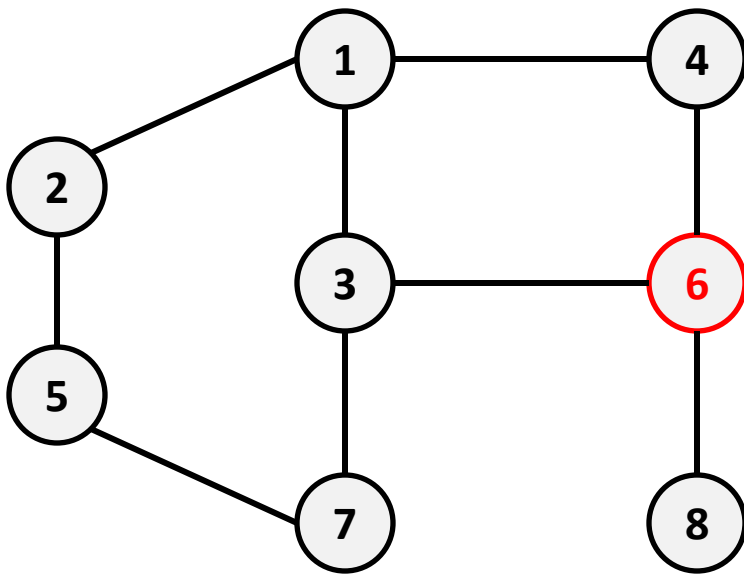
***va* (guarda o antecessor)**

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8

***Fila***



# Inserir 6 na Fila



**$A = 5$**

**$B = 6$**



**vs (marca se foi visitado)**

1	1	1	1	1	1	1	0
1	2	3	4	5	6	7	8

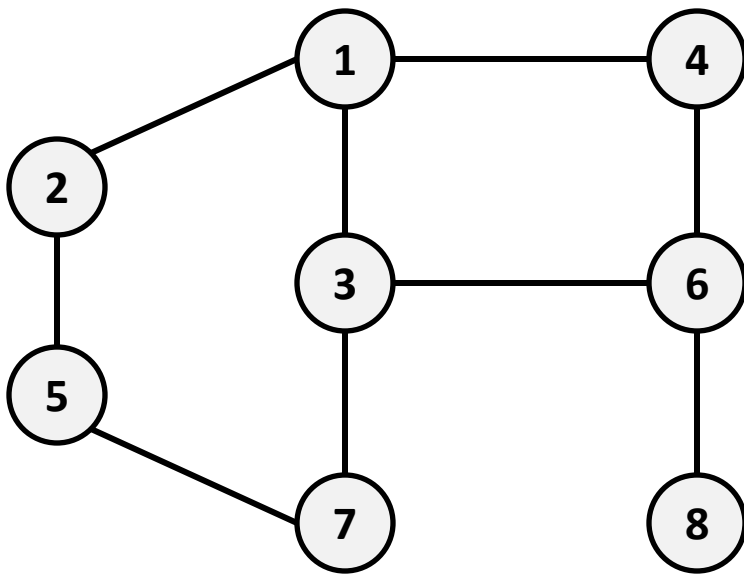
**va (guarda o antecessor)**

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8

***Fila***



# Remove 4 da Fila



**$A = 5$**

**$B = 6$**

**4**

**vs (marca se foi visitado)**

1	1	1	1	1	1	1	0
1	2	3	4	5	6	7	8

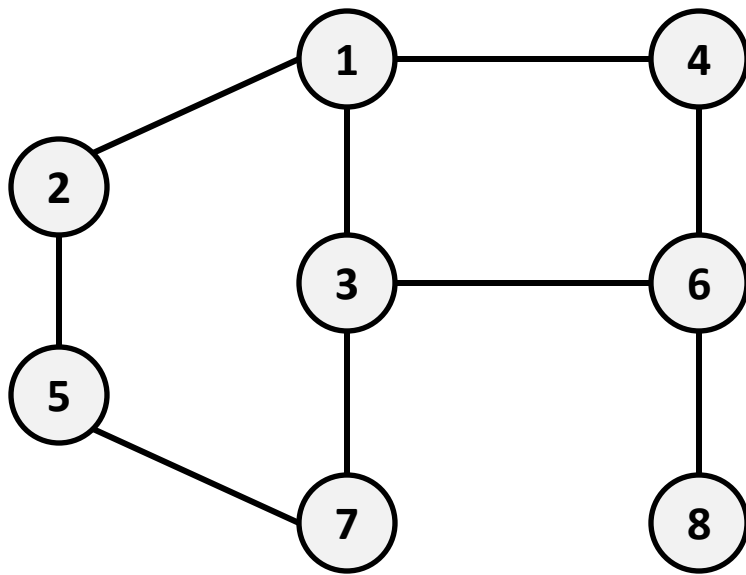
**va (guarda o antecessor)**

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8

***Fila***

**6**

# Seleciona adjacentes a 4 (e que não foram visitados – **nenhum!**)



**$A = 5$**

**$B = 6$**



**vs (marca se foi visitado)**

1	1	1	1	1	1	1	0
1	2	3	4	5	6	7	8

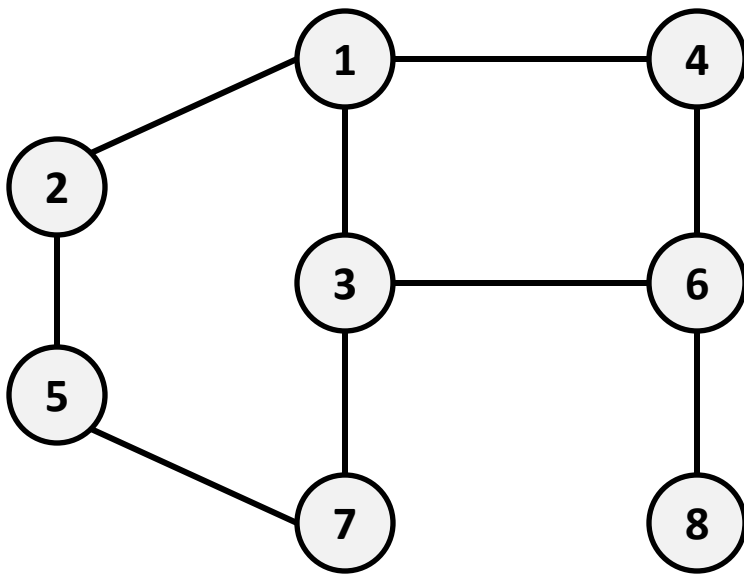
**va (guarda o antecessor)**

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8

***Fila***



# Remove 6 da Fila



**$A = 5$**

**$B = 6$**

**6**

**vs (marca se foi visitado)**

1	1	1	1	1	1	1	0
1	2	3	4	5	6	7	8

**va (guarda o antecessor)**

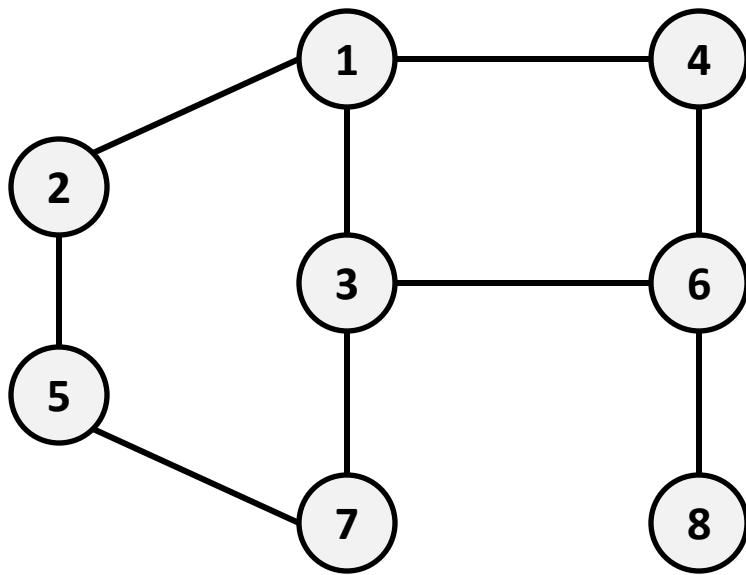
2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8

***Fila***

---

---

# B foi encontrado! Fim da Busca!



**A = 5**

**B = 6**

**6**

**vs (marca se foi visitado)**

1	1	1	1	1	1	1	0
1	2	3	4	5	6	7	8

**va (guarda o antecessor)**

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8

**Fila**

---

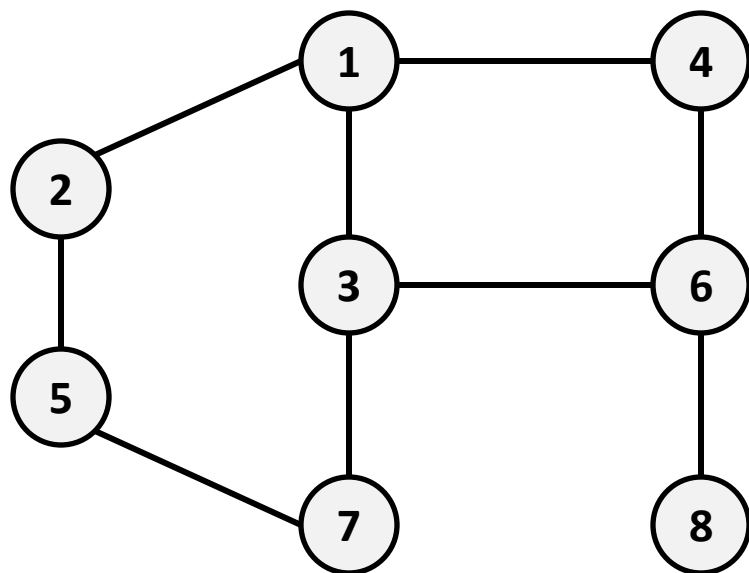
---



# Obtendo o caminho entre A e B

- Basta acessar o vetor de antecessores, a partir do índice B;
- O valor nesse índice corresponde ao antecessor de B no caminho;
- Utilize esse valor como um novo índice para continuar o processo;
- Repita até que se chegue num valor 0.

# Gerando o caminho...



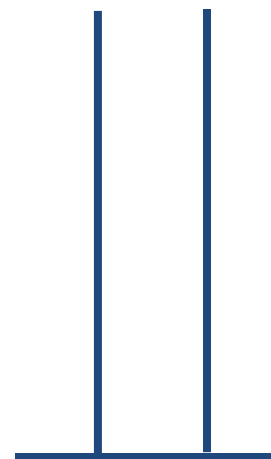
**A = 5**

**B = 6**

6

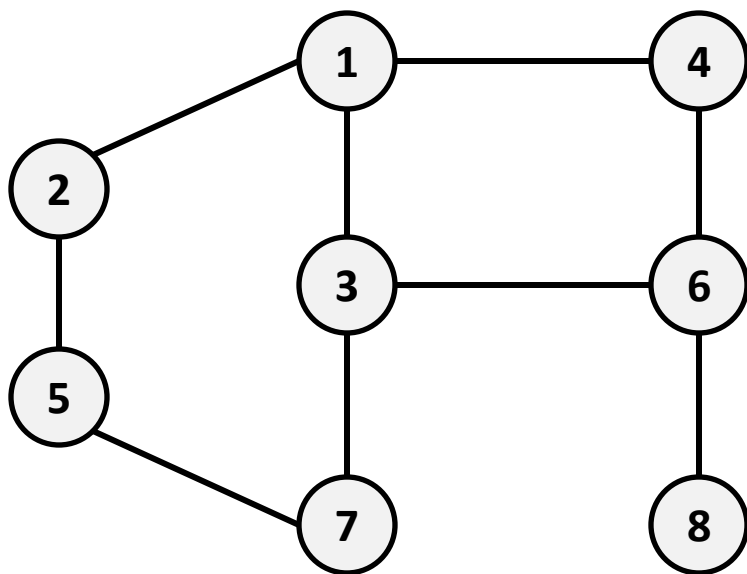
*va* (guarda o antecessor)

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8



*Pilha*

# Empilha 6

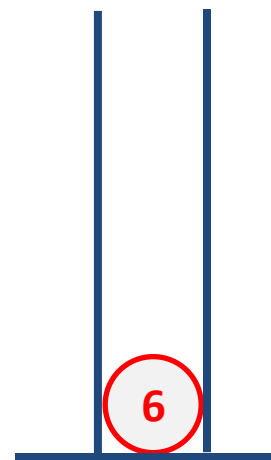


**A = 5**

**B = 6**

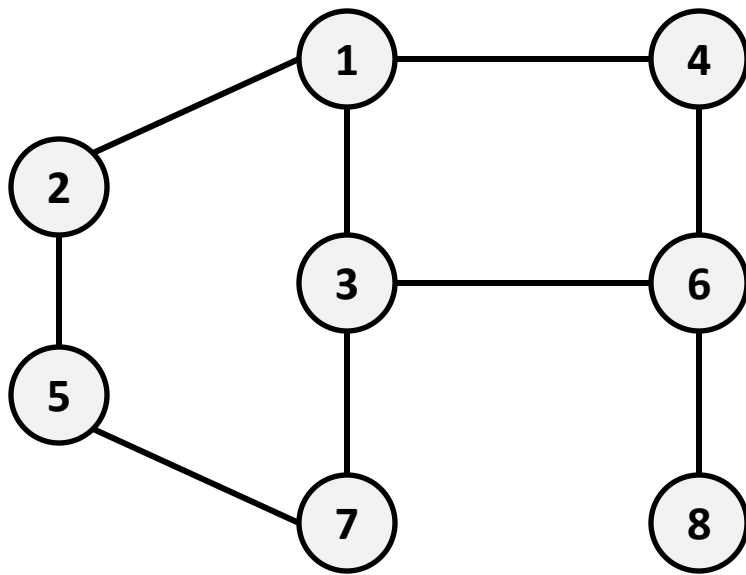
**va (guarda o antecessor)**

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8



**Pilha**

# Verifica antecessor de 6

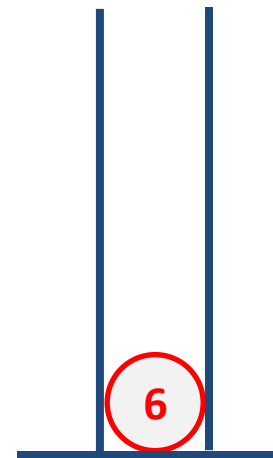


**A = 5**

**B = 6**

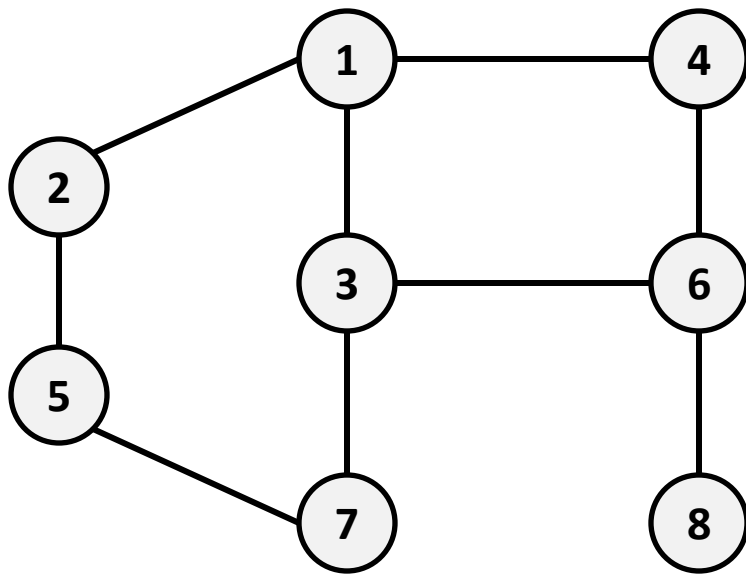
**va (guarda o antecessor)**

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8



**Pilha**

# Empilha 3

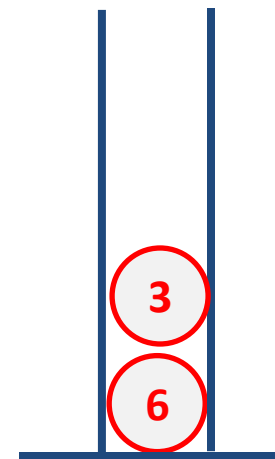


**A = 5**

**B = 6**

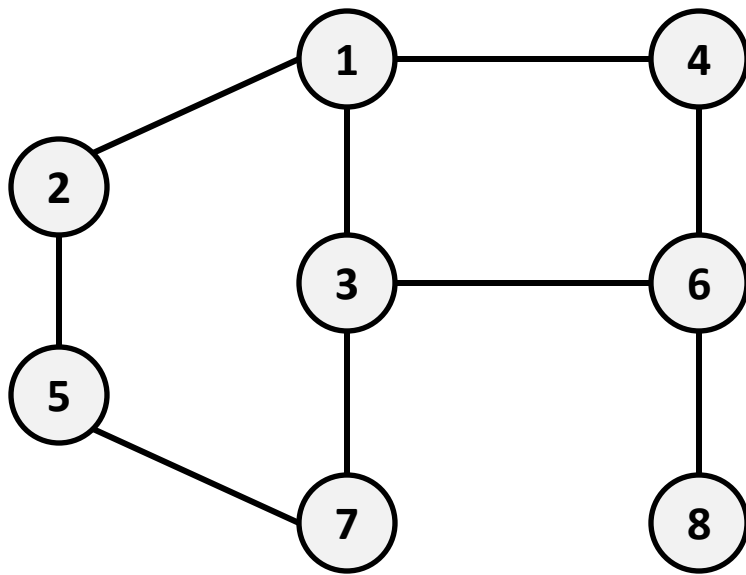
**va (guarda o antecessor)**

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8



**Pilha**

# Verifica antecessor de 3

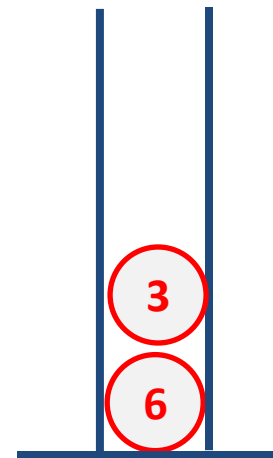


**A = 5**

**B = 6**

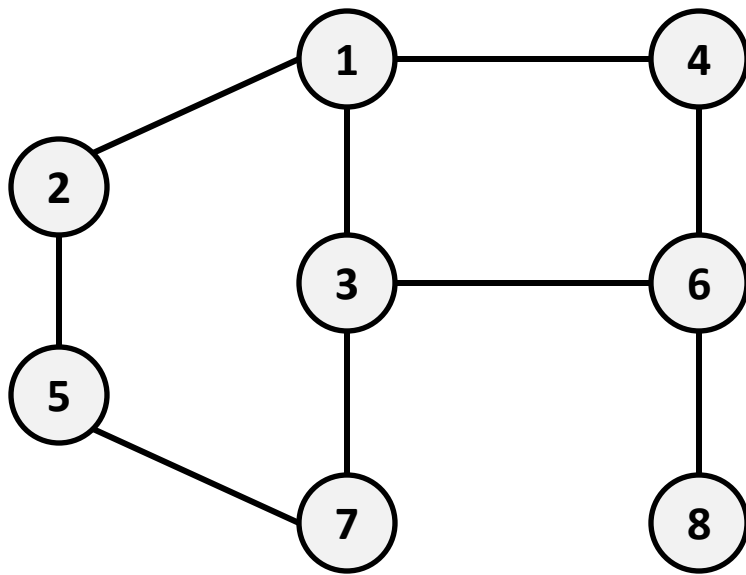
**va (guarda o antecessor)**

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8



**Pilha**

# Empilha 7

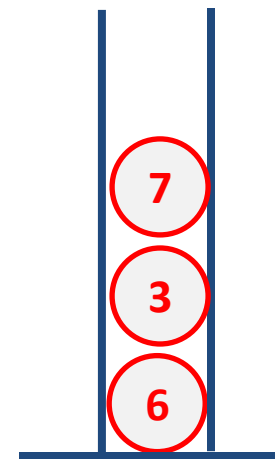


**A = 5**

**B = 6**

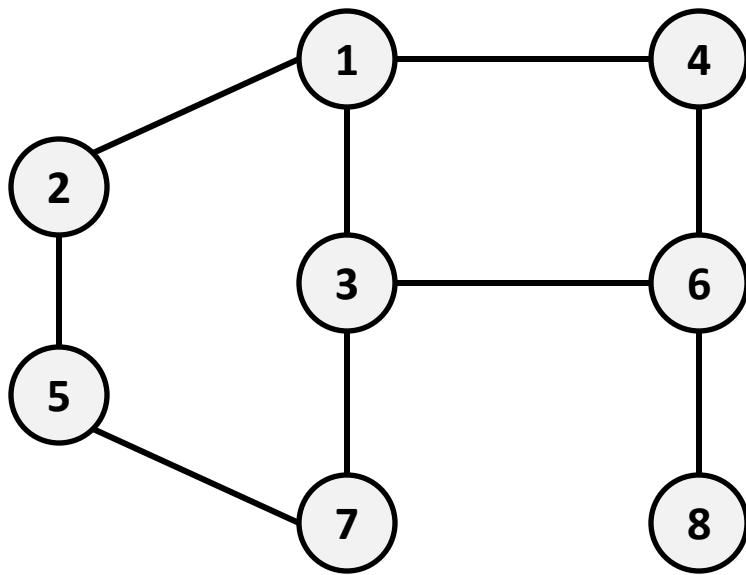
**va (guarda o antecessor)**

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8



**Pilha**

# Verifica antecessor de 7

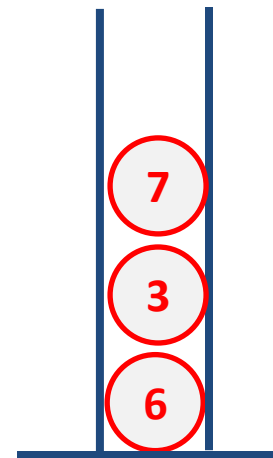


**A = 5**

**B = 6**

**va (guarda o antecessor)**

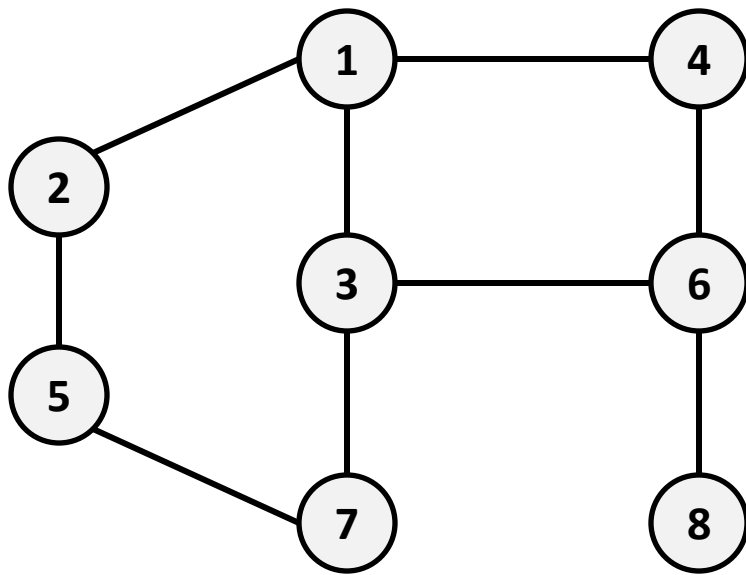
2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8



**Pilha**



# Empilha 5

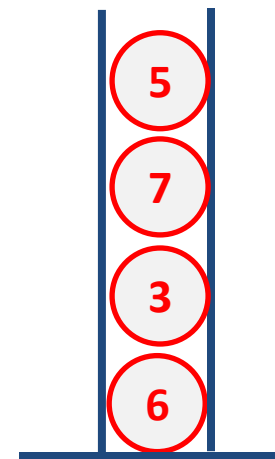


**A = 5**

**B = 6**

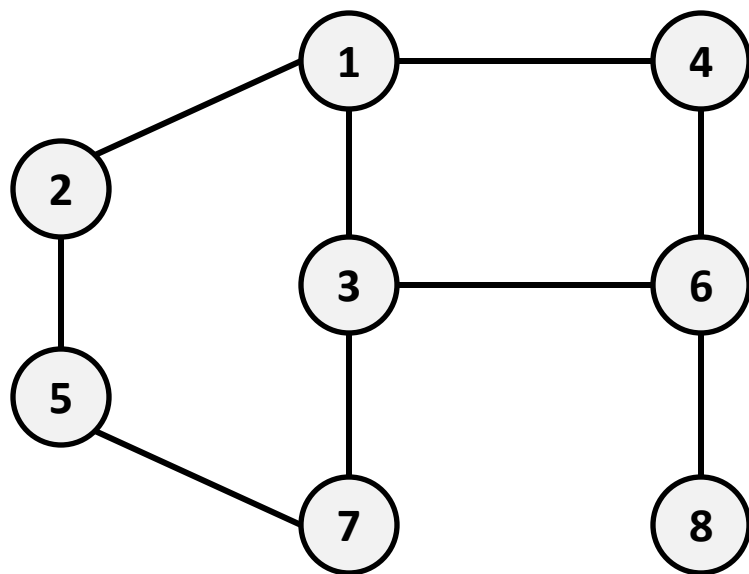
**va (guarda o antecessor)**

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8



**Pilha**

# Verifica antecessor de 5 (fim)

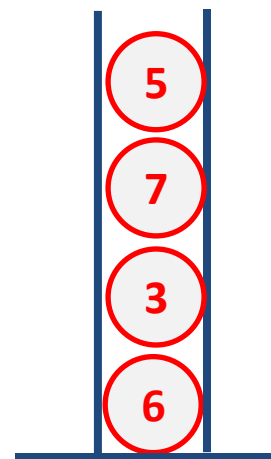


**A = 5**

**B = 6**

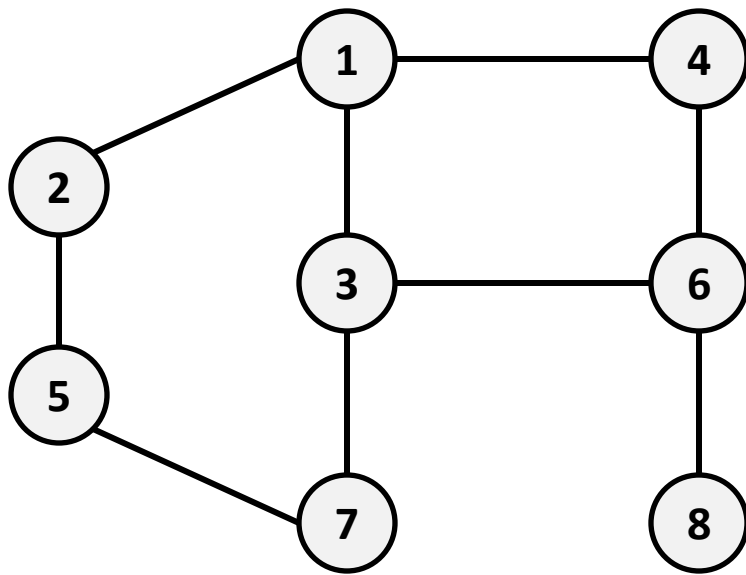
*va* (guarda o antecessor)

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8



**Pilha**

# Basta desempilhar...

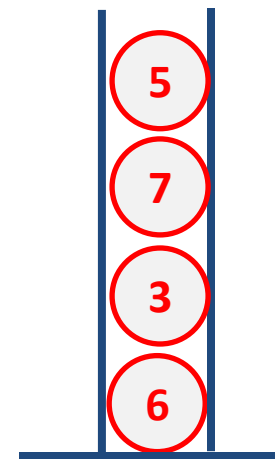


**A = 5**

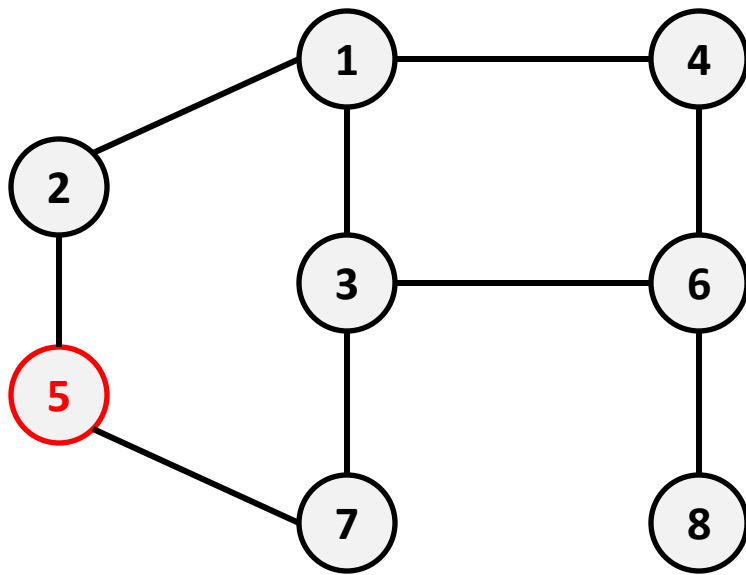
**B = 6**

**va (guarda o antecessor)**

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8



# Basta desempilhar...

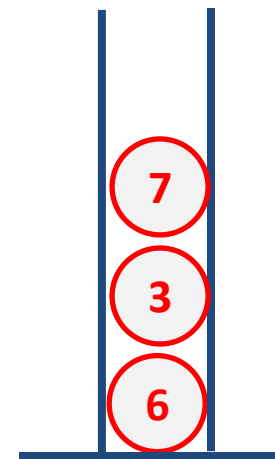


**A = 5**

**B = 6**

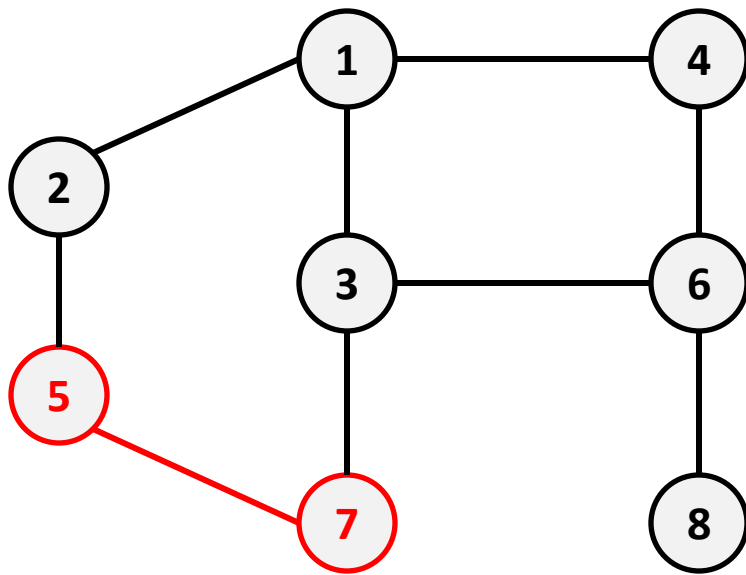
*va* (guarda o antecessor)

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8



*Pilha*

# Basta desempilhar...

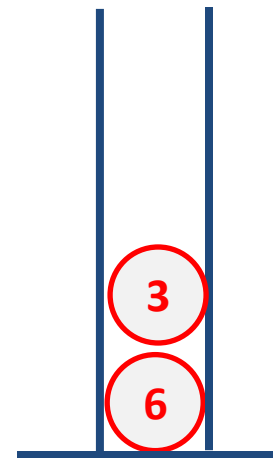


**A = 5**

**B = 6**

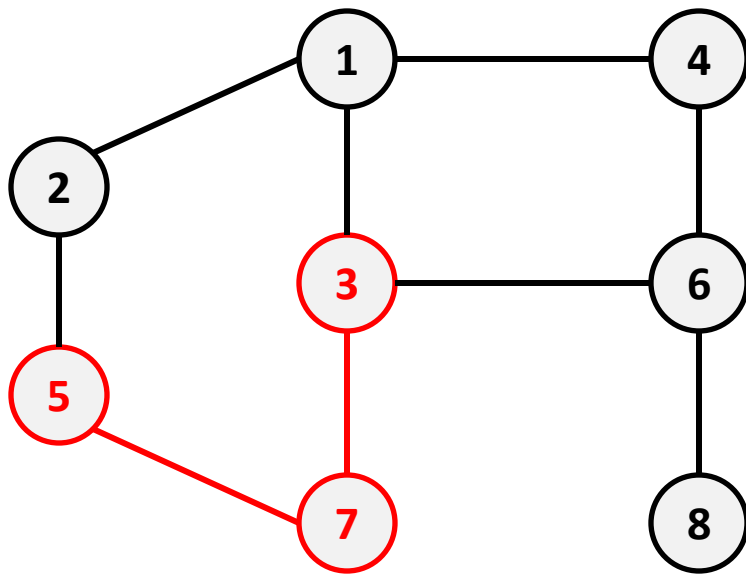
**va (guarda o antecessor)**

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8



**Pilha**

# Basta desempilhar...

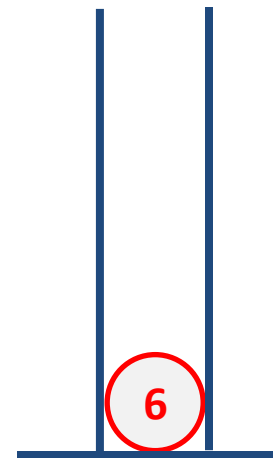


**A = 5**

**B = 6**

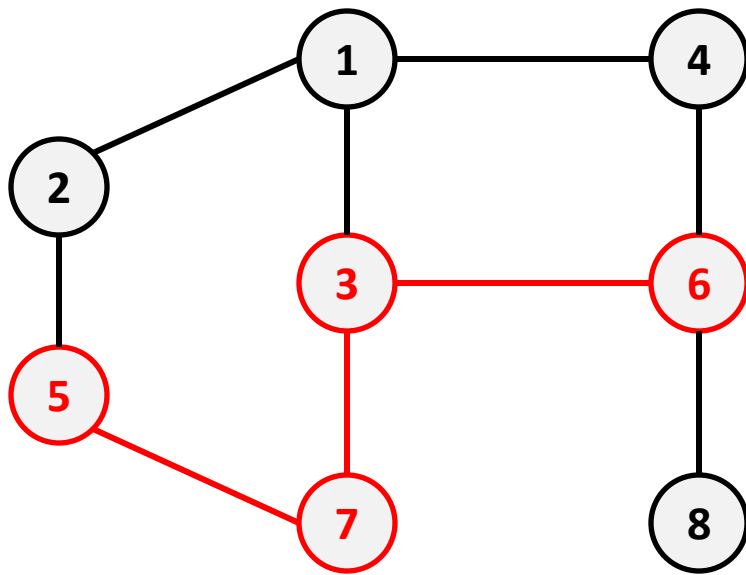
**va (guarda o antecessor)**

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8



**Pilha**

# Basta desempilhar... (Fim!)

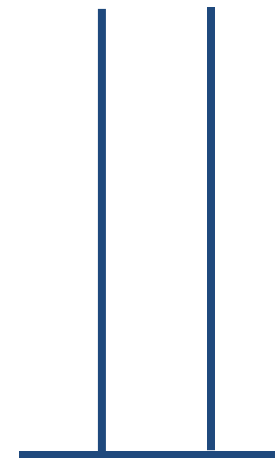


**A = 5**

**B = 6**

*va* (guarda o antecessor)

2	5	7	1	0	3	5	0
1	2	3	4	5	6	7	8



*Pilha*