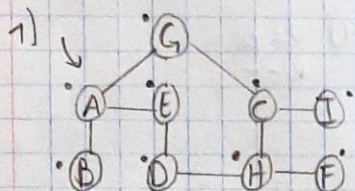


## Grafos: Ejercicio.



- BFS y DFS iniciado en A  
BFS y DFS iniciado en C

a) BFS  $q: \{A, B, E, G, D, C, H, I, F\}$

visitados:  $\{A, E, B, G, D, C, H, I, F\} \rightarrow \text{return}$

1)  $v = A$   
 $w = E$   
 $w = B$   
 $w = G$

2)  $v = E$   
 $w = A$   
 $w = D$

3)  $v = B$   
 $w = A$

4)  $v = G$   
 $w = A$   
 $w = C$

5)  $v = D$   
 $w = E$   
 $w = A$

6)  $v = C$   
 $w = H$   
 $w = I$   
 $w = F$

7)  $v = A$   
 $w = C$   
 $w = D$   
 $w = F$

8)  $v = I$

9)  $v = F$

**b) DFS**

visitados:  $\{A, B, E, D, H, C, G, I, F\}$

1) 

B
A

 2) 

C
H
D
E
A

 3) 

C
H
D
E
A

 4) 

C
H
D
E
A

5) 

F
A
D
E
A

 6) 

A
D
E
A

 7) 

D
E
A

 8) 

E
A

 9) 

A
---

**a) BFS**

9:  $\{C, I, H, G, F, D, A, E, B\}$

Visitados:  $\{C, I, H, G, F, D, A, E, B\}$  Return

1)  $V=C$   $W=I$   $W=H$   $W=G$  2)  $V=I$   $W=D$  3)  $V=H$   $W=F$   $W=D$  4)  $V=G$   $W=C$   $W=A$

5)  $V=F$  6)  $V=D$   $W=H$   $W=E$  7)  $V=A$   $W=G$   $W=B$  8)  $V=E$   $W=D$   $W=A$  9)  $V=B$   $W=-$

**b) DFS**

visitados:  $\{C, G, A, B, E, D, H, F, I\}$

1) 

B
A
G
C

 2) 

F
H
D
E
A
G
C

 3) 

I
C

 4) 

H
D
E
A
G
C

 5) 

D
E
A
G
C

 6) 

E
A
G
C

 7) 

A
G
C

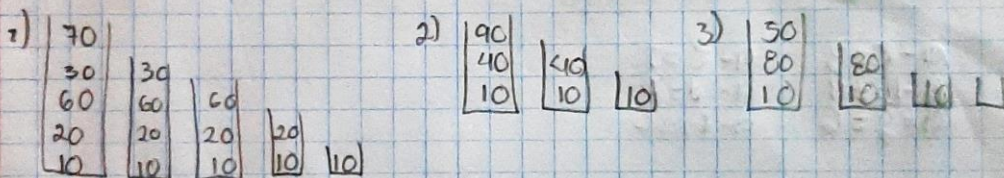
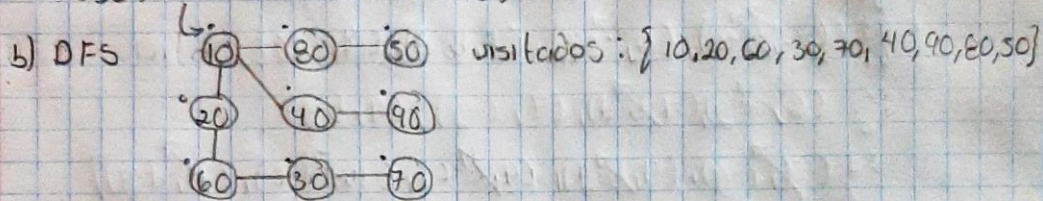
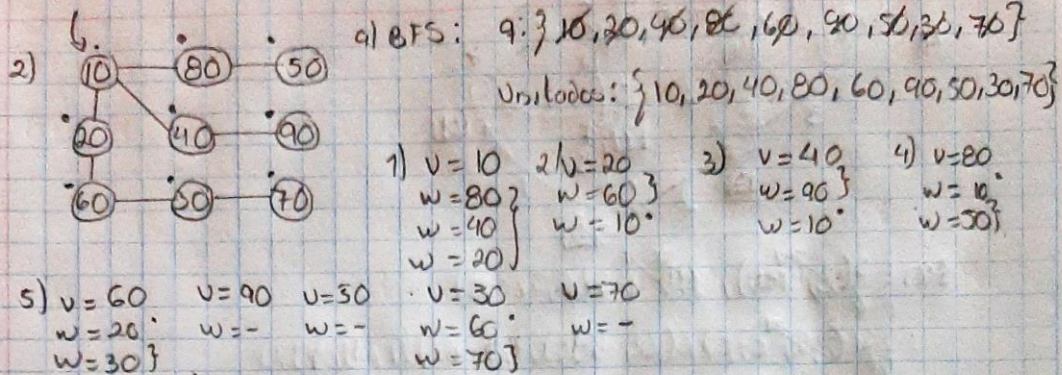
 8) 

G
C

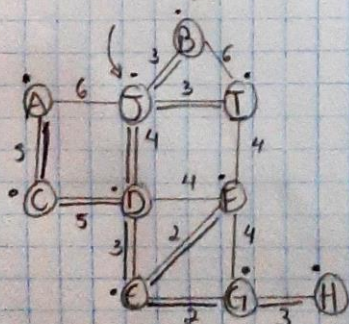
 9) 

C
---





3) Arbol de expansión mínimo en J



$PO: \{ (3, \overrightarrow{J-B}), (3, \overrightarrow{J-I}), (4, \overrightarrow{J-D}), (6, \overrightarrow{J-A}) \}$   
 $: \{ (3, \overrightarrow{J-I}), (4, \overrightarrow{J-D}), (6, \overrightarrow{J-A}), (6, \overrightarrow{B-I}) \}$   
 $: \{ (4, \overrightarrow{J-D}), (4, \overrightarrow{I-F}), (6, \overrightarrow{J-A}), (6, \overrightarrow{B-I}) \}$   
 $: \{ (3, \overrightarrow{D-E}), (4, \overrightarrow{I-F}), (4, \overrightarrow{D-F}), (5, \overrightarrow{D-C}), (6, \overrightarrow{J-A}), (6, \overrightarrow{B-I}) \}$   
 $: \{ (2, \overrightarrow{I-F}), (2, \overrightarrow{E-G}), (4, \overrightarrow{I-F}), (4, \overrightarrow{D-F}), (5, \overrightarrow{D-C}), (6, \overrightarrow{J-A}), (6, \overrightarrow{B-I}) \}$

A.E.M:  $\{ (3, \overrightarrow{J-B}), (3, \overrightarrow{J-I}), (4, \overrightarrow{J-D}), (4, \overrightarrow{D-E}), (4, \overrightarrow{I-F}), (4, \overrightarrow{E-G}), (4, \overrightarrow{D-F}), (5, \overrightarrow{D-C}), (6, \overrightarrow{J-A}), (6, \overrightarrow{B-I}) \}$

$: \{ (2, \overrightarrow{I-F}), (2, \overrightarrow{E-G}), (4, \overrightarrow{I-F}), (4, \overrightarrow{D-F}), (4, \overrightarrow{F-G}), (5, \overrightarrow{D-C}), (6, \overrightarrow{J-A}), (6, \overrightarrow{B-I}) \}$   
 $: \{ (3, \overrightarrow{G-H}), (4, \overrightarrow{I-F}), (4, \overrightarrow{J-F}), (4, \overrightarrow{F-G}), (5, \overrightarrow{D-C}), (6, \overrightarrow{J-A}), (6, \overrightarrow{B-I}) \}$   
 $: \{ (5, \overrightarrow{J-A}), (6, \overrightarrow{J-A}), (6, \overrightarrow{B-I}) \}$

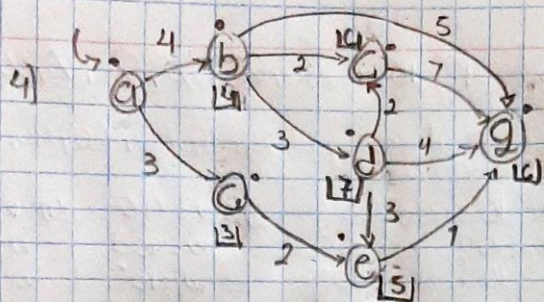
A.E.M:  $\{ 30 \}$



Díaz Hernández Marcos Bryan

Ejercicio de clase 10

Grupo: 09



PA:  $\{ (3, a \rightarrow c), (4, a \rightarrow b), (5, c \rightarrow c) \}$

$\{ (5, c \rightarrow c), (6, b \rightarrow d), (7, b \rightarrow d), (9, b \rightarrow g) \}$

$\{ (6, b \rightarrow c), (6, c \rightarrow g), (7, b \rightarrow d), (9, b \rightarrow g) \}$

$\{ (6, c \rightarrow g), (7, b \rightarrow d), (7, c \rightarrow g), (9, b \rightarrow g) \}$

$\{ (7, c \rightarrow g), (9, b \rightarrow g), (9, c \rightarrow c), (10, d \rightarrow c), (11, d \rightarrow g) \}$

$$a-c=3$$

$$a-b=4$$

$$a-g=6$$

$$a-d=7$$

$$a-c=5$$

$$a-d=7$$

$$a-c=6$$