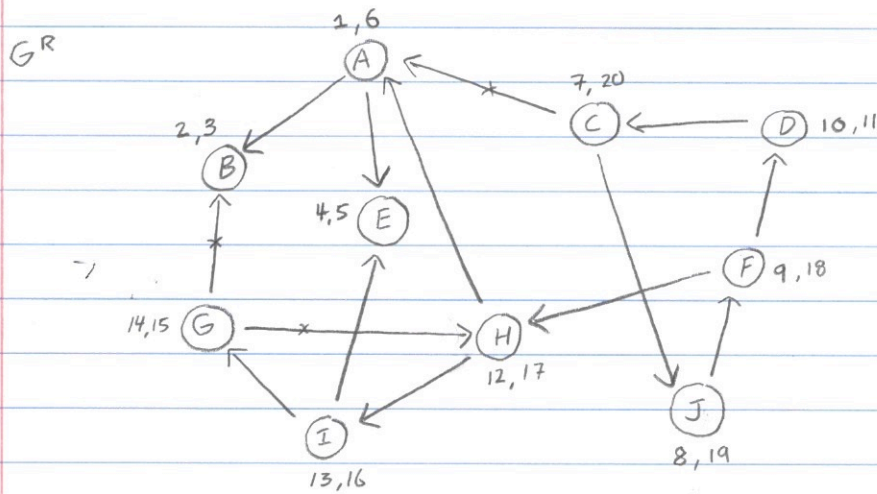


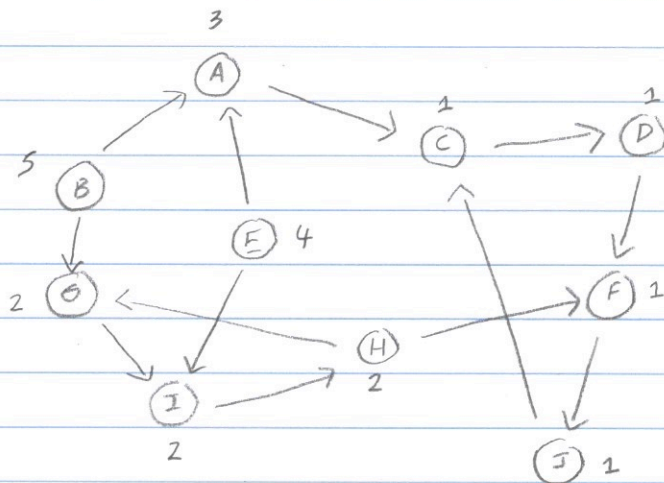
Assignment 3c

3.4

Strongly Connected Components

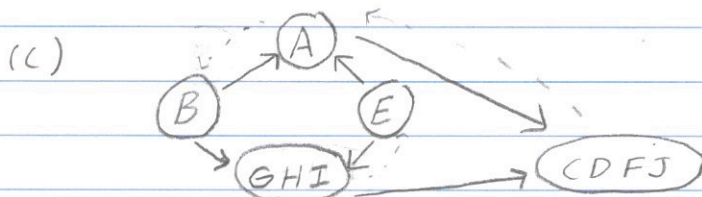


C	J	F	H	I	G	D	A	E	B
20	19	18	17	16	15	11	6	5	3

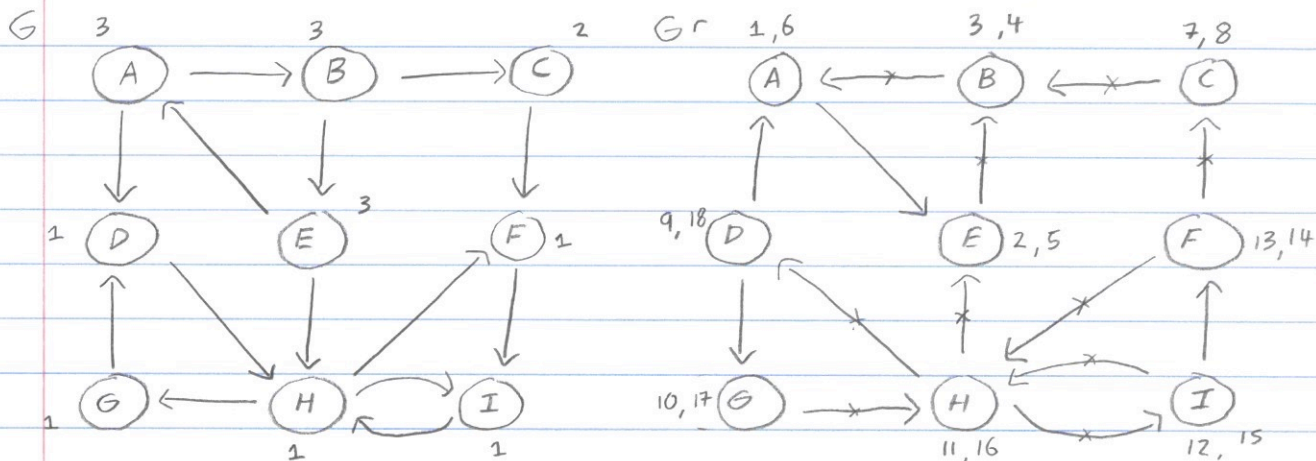


(a) $\{B\}, \{E\}, \{A\}, \{G, H, I\}, \{C, D, F, J\}$

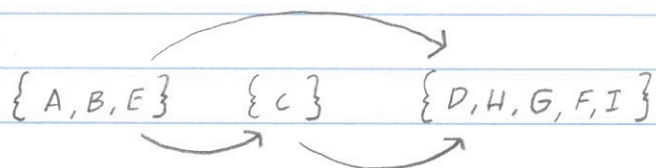
(b) source: $\{B\}, \{E\}$
sink: $\{C, D, F, J\}$



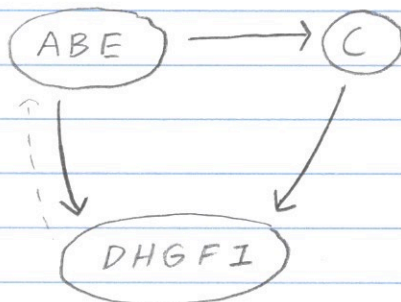
(d) 3 edges
 $(CDFJ) \rightarrow (A)$
 $(A) \rightarrow (B)$
 $(GHI) \rightarrow (E)$



D 18 G 17 H 16 I 15 F 14 C 8 A 6 E 5 B 4



- (a) {ABE}, {C}, {DHGF I}
- (b) source: {ABE}
- sink: {DHGF I}
- (c)



- (d) 1 edge (DHGF I) → (ABE)

$$(\bar{x}_1, \vee \bar{x}_1)$$

$$(x_1, \vee x_2)$$

3.28

(d)

$$(x_1, \vee x_2) \wedge (\bar{x}_2, \vee x_1) \wedge (\bar{x}_1, \vee x_2) \wedge (\bar{x}_2, \vee \bar{x}_1)$$

$$(x_2, \vee x_1)$$

$$\bar{x}_1 \rightarrow \bar{x}_1$$

$$\bar{x}_1 \rightarrow x_2$$

$$x_2 \rightarrow x_1$$

$$x_1 \rightarrow x_2$$

$$x_2 \rightarrow \bar{x}_1$$

$$x_1 \rightarrow x_2$$

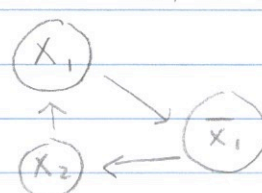
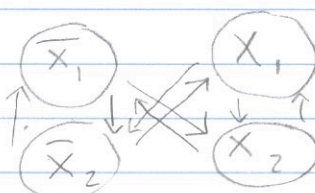
$$x_2 \rightarrow x_1$$

$$\bar{x}_1 \rightarrow \bar{x}_2$$

$$\bar{x}_2 \rightarrow \bar{x}_1$$

$$x_1 \rightarrow \bar{x}_2$$

$$\bar{x}_2 \rightarrow x_1$$



$$x_1 \rightarrow \bar{x}_1$$

$$\bar{x}_1 \rightarrow x_2$$

$$x_2 \rightarrow x_1$$