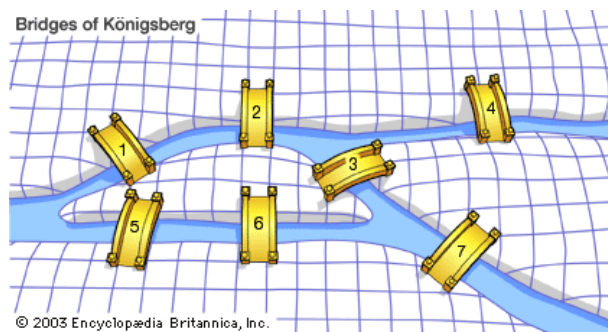


Parcial 1

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Carné: 20181049

1 Primera serie



Conjunto de nodos:

$$Nodos : \{1, 2, 3, 4, 5, 6, 7\}$$

Conjunto de vértices:

$$vertices : \{ < 1, 2 > < 1, 3 > < 1, 4 > < 1, 5 > < 1, 6 > < 2, 4 > < 2, 5 > < 2, 6 > < 2, 3 > < 3, 4 > < 3, 5 > < 3, 6 > < 3, 7 > < 4, 7 > < 7, 5 > < 7, 6 > < 5, 6 > \}$$

Grafo representando el conjunto de vértices:

$$\left\{ \begin{array}{l} < 1, 2 > < 1, 3 > < 1, 4 > < 1, 5 > < 1, 6 > \\ < 2, 4 > < 2, 5 > < 2, 6 > < 2, 3 > < 3, 4 > \\ < 3, 5 > < 3, 6 > < 3, 7 > < 4, 7 > < 7, 5 > \\ < 7, 6 > < 5, 6 > \end{array} \right\}$$

2 Segunda serie

$$\frac{n(n+1)}{2}$$

Caso base: $n = 1$

$$\frac{1(1+1)}{2}$$

$$\frac{2}{2}$$

$$1$$

Caso inductivo: $n = n \oplus 1$

$$\frac{(n \oplus 1)((n \oplus 1) \oplus 1)}{2}$$

$$\frac{(n \oplus 1)(n \oplus 2)}{2}$$

$$\frac{(n \oplus 1)}{1} \otimes \frac{(n \oplus 2)}{2}$$

$$\frac{(n \oplus 1)}{1} \otimes \left(\frac{(n)}{2} \oplus \frac{2}{2} \right)$$

$$\frac{(n \oplus 1)}{1} \otimes \left(\frac{(n)}{2} \oplus 1 \right)$$

$$\frac{n(n \oplus 1)}{2} \oplus \frac{(n \oplus 1)}{1}$$

$$\frac{n(n \oplus 1) \oplus 2(n \oplus 1)}{2}$$

$$\frac{(n \oplus 1) \otimes (n \oplus 2)}{2}$$

$$\frac{(n \oplus 1)(n \oplus 2)}{2}$$

$$\frac{(n \oplus 1)((n \oplus 1) \oplus 1)}{2}$$

3 Tercera serie

$$\sum (n) = 1 + 2 + 3 + 4 + \dots + n \left\{ \frac{n(n+1)}{2} \right\}$$

$$\frac{s(0)(s(0) \oplus s(0))}{s(s(0))}$$

$$\frac{s(0)(s(s(0)))}{s(s(0))}$$

$$\frac{s(s(0))}{s(s(0))}$$

$$s(s(0)) \ominus \left(\frac{s(0)}{s(0)} \right)$$

$$s(s(0)) \ominus s(0)$$

$$s(0)$$

4 Cuarta serie

$$a \oplus b = b \oplus a$$

caso base: $a = 0$

$$0 \oplus b = b \oplus 0$$

$$b = b$$

caso inductivo: $a = s(i)$

$$s(i) \oplus b = b \oplus s(i)$$

$$s(i \oplus b) = s(b \oplus i)$$

$$s(i \oplus b) = s(i \oplus b)$$

5 Quinta serie

$$((n \oplus n) \geq n) = s(0)$$

caso base: $n = 0$

$$((0 \oplus 0) \geq 0)$$

$$0 \geq 0$$

caso inductivo: $n = s(0)$

$$((s(0) \oplus s(0)) \geq s(0))$$

$$((s(s(0 \oplus 0))) \geq s(0))$$

$$((s(s(0))) \geq s(0))$$

$$(s(s(0)) \oplus s(0) \geq 0)$$

$$(s(0) \geq 0)$$

$$(((n \oplus n) \geq n) = s(0)) = s(0)$$