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|  | Nombres: Juliana Alexandra Moreno Jiménez | |
| Fecha de entrega: 21 de abril de 2023 | Ciclo: 2 |
| **Estructura de Datos** | |
| **Taller 14 - Ejercicios sobre árboles binarios** | |

1. Para el siguiente árbol binario:

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|  | Presente:   1. Peso: 11 2. Altura: 5 3. ¿Cuáles nodos son Hojas?: 5 4. Los nodos que forman una rama:   64-55-48-50   1. Recorrido en inorden   33-39-48-50-55-57-64-74-76-78-81   1. Recorrido en preorden   64-55-48-33-39-50-57-76-74-78-81     1. Recorrido en postorden   39-33-50-48-57-55-74-81-78-76-64 |
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1. Para el siguiente árbol binario:

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|  | Indique:   1. Altura: 8      1. Número de niveles: 7 2. Ancestro común de la E y la J: B 3. Peso del árbol izquierdo de la E: 4 4. Recorrido en inorden   N-O-H-I-J-B-C-D-P-K-Q-L-E-F-M-G-A   1. Recorrido en preorden   A-B-H-N-O-I-J-C-D-E-K-P-L-Q-F-G-M   1. Recorrido en postorden   O-N-J-I-H-P-Q-L-K-M-G-F-E-D-C-B-A   1. Recorrido por niveles   A-B-H-C-N-I-D-O-J-E-K-F-P-L-G-Q-M   1. ¿Cuáles nodos son hojas?   O-J-P-Q-M |

1. Reconstruya el árbol binario que posee los siguientes recorridos:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Preorden: 1 – 2 – 3 – 4 – 5 – 6 – 7  Inorden: 3 – 2 – 5 – 4 – 1 – 6 - 7 | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | |  | 3 | 2 | 5 | 4 | 1 | 6 | 7 | | 1 |  |  |  |  |  |  |  | | 2 |  |  |  |  |  |  |  | | 3 |  |  |  |  |  |  |  | | 4 |  |  |  |  |  |  |  | | 5 |  |  |  |  |  |  |  | | 6 |  |  |  |  |  |  |  | | 7 |  |  |  |  |  |  |  | |

1. Reconstruya el árbol binario que posee los siguientes recorridos:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Postorden: A – C – E – D – B – H – I – G – F  Inorden: A – B – C – D – E – F – G – H – I | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | A | B | C | D | E | F | G | H | I | | F |  |  |  |  |  |  |  |  |  | | G |  |  |  |  |  |  |  |  |  | | I |  |  |  |  |  |  |  |  |  | | H |  |  |  |  |  |  |  |  |  | | B |  |  |  |  |  |  |  |  |  | | D |  |  |  |  |  |  |  |  |  | | E |  |  |  |  |  |  |  |  |  | | C |  |  |  |  |  |  |  |  |  | | A |  |  |  |  |  |  |  |  |  | |
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1. Reconstruya el árbol binario que posee los siguientes recorridos:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Preorden: 59 – 37 – 28 – 16 – 43 – 48 – 74 – 80 – 79  Inorden: 16 – 28 – 37 – 43 – 48 – 59 – 74 – 79 – 80 | |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | 16 | 28 | 37 | 43 | 48 | 59 | 74 | 79 | 80 | | 59 |  |  |  |  |  |  |  |  |  | | 37 |  |  |  |  |  |  |  |  |  | | 28 |  |  |  |  |  |  |  |  |  | | 16 |  |  |  |  |  |  |  |  |  | | 43 |  |  |  |  |  |  |  |  |  | | 48 |  |  |  |  |  |  |  |  |  | | 74 |  |  |  |  |  |  |  |  |  | | 80 |  |  |  |  |  |  |  |  |  | | 79 |  |  |  |  |  |  |  |  |  | |