

Programa 01

Complejidad Computacional

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Es necesario tener instalado **Python 3.0** o una versión mayor.

Para ambos problemas se generan gráficas aleatorias de 10 a 20 vértices.

Problemas

Árbol Generador

El problema del Árbol Generador se encuentra en la carpeta **ejercicio1(P)** y basta con ejecutar en la terminal el comando **python build_graph.py**. En pantalla se mostraran el ejemplar y el candidato a solución; en la parte inferior se mostrará la respuesta al algoritmo ejecutado.

Ejemplo:

```

C:\Users\virus\Desktop\[LópezSotoRamsesAntonio]P01\ejercicio1(P)>python build_graph.py

Generator Tree

Graph:
[[v1], neighbors: [[v3][v4][v8][v10][v12][v13][v15][v16][v17]]]
[[v2], neighbors: [[v3][v6][v11][v13][v18][v20]]]
[[v3], neighbors: [[v1][v2][v6][v8][v11][v13][v14][v15][v16][v20]]]
[[v4], neighbors: [[v1][v6][v8][v9][v11][v12][v14][v15][v16][v18]]]
[[v5], neighbors: [[v1][v2][v11][v12][v13][v14][v15][v16][v17][v19]]]
[[v6], neighbors: [[v7][v10][v11][v12][v15][v17][v20]]]
[[v7], neighbors: [[v1][v4][v6][v9][v10][v14][v15][v16][v17][v18]]]
[[v8], neighbors: [[v2][v3][v4][v6][v9][v11][v12][v13][v16][v17][v19][v20]]]
[[v9], neighbors: [[v4][v5][v8][v15][v17][v18][v19][v20]]]
[[v10], neighbors: [[v1][v2][v3][v5][v9][v12][v13][v15][v19]]]
[[v11], neighbors: [[v2][v4][v5][v8][v9][v13][v15][v18][v19]]]
[[v12], neighbors: [[v1][v3][v4][v7][v8][v10][v13][v14][v15][v18][v20]]]
[[v13], neighbors: [[v1][v6][v8][v10][v17][v18][v19]]]
[[v14], neighbors: [[v1][v2][v5][v12][v15][v17][v19][v20]]]
[[v15], neighbors: [[v3][v4][v5][v6][v7][v8][v11][v13][v14][v16][v17][v18][v19][v20]]]
[[v16], neighbors: [[v1][v2][v3][v5][v6][v7][v11][v12][v13][v14][v15][v17][v19]]]
[[v17], neighbors: [[v1][v3][v4][v6][v8][v9][v15][v16][v19]]]
[[v18], neighbors: [[v2][v3][v4][v7][v8][v9][v13][v14][v15][v20]]]
[[v19], neighbors: [[v5][v6][v9][v10][v12][v16][v18]]]
[[v20], neighbors: [[v4][v6][v8][v13][v14][v15][v17][v19]]]

Nominee:
[(17,9)(18,12)(11,5)(16,6)(5,2)(8,7)(16,2)(10,8)(5,1)(18,4)(14,9)(12,10)(19,4)(20,11)(19,12)(16,13)(18,5)(13,4)(15,12)]

NO

C:\Users\virus\Desktop\[LópezSotoRamsesAntonio]P01\ejercicio1(P)>
```

Clan

El problema del Clan se encuentra en la carpeta **ejercicio2(NP)** y basta con ejecutar en la terminal el comando **python build_graph.py**. En pantalla se mostraran el ejemplar y el candidato a solución; en la parte inferior se mostrará la respuesta al algoritmo ejecutado. Para este problema es necesario ingresar un número entero para crear otra gráfica aleatoria completa.

Ejemplo:

```
Símbolo del sistema
C:\Users\virus\Desktop\[LópezSotoRamsesAntonio]P01\ejercicio1(P)>python build_graph.py

Generator Tree

Graph:
[[v1], neighbors: [[v3][v4][v8][v10][v12][v13][v15][v16][v17]]]
[[v2], neighbors: [[v3][v6][v11][v13][v18][v20]]]
[[v3], neighbors: [[v1][v2][v6][v8][v11][v13][v14][v15][v16][v20]]]
[[v4], neighbors: [[v1][v6][v8][v9][v11][v12][v14][v15][v16][v18]]]
[[v5], neighbors: [[v1][v2][v11][v12][v13][v14][v15][v16][v17][v19]]]
[[v6], neighbors: [[v7][v10][v11][v12][v15][v17][v20]]]
[[v7], neighbors: [[v1][v4][v6][v9][v10][v14][v15][v16][v17][v18]]]
[[v8], neighbors: [[v2][v3][v4][v6][v9][v11][v12][v13][v16][v17][v19][v20]]]
[[v9], neighbors: [[v4][v5][v8][v15][v17][v18][v19][v20]]]
[[v10], neighbors: [[v1][v2][v3][v5][v9][v12][v13][v15][v19]]]
[[v11], neighbors: [[v2][v4][v5][v8][v9][v13][v15][v18][v19]]]
[[v12], neighbors: [[v1][v3][v4][v7][v8][v10][v13][v14][v15][v18][v20]]]
[[v13], neighbors: [[v1][v6][v8][v10][v17][v18][v19]]]
[[v14], neighbors: [[v1][v2][v5][v12][v15][v17][v19][v20]]]
[[v15], neighbors: [[v3][v4][v5][v6][v7][v8][v11][v13][v14][v16][v17][v18][v19][v20]]]
[[v16], neighbors: [[v1][v2][v3][v5][v6][v7][v11][v12][v13][v14][v15][v17][v19]]]
[[v17], neighbors: [[v1][v3][v4][v6][v8][v9][v15][v16][v19]]]
[[v18], neighbors: [[v2][v3][v4][v7][v8][v9][v13][v14][v15][v20]]]
[[v19], neighbors: [[v5][v6][v9][v10][v12][v16][v18]]]
[[v20], neighbors: [[v4][v6][v8][v13][v14][v15][v17][v19]]]

Nominee:
[(17,9)(18,12)(11,5)(16,6)(5,2)(8,7)(16,2)(10,8)(5,1)(18,4)(14,9)(12,10)(19,4)(20,11)(19,12)(16,13)(18,5)(13,4)(15,12)]

NO

C:\Users\virus\Desktop\[LópezSotoRamsesAntonio]P01\ejercicio1(P)>
```