

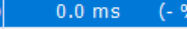

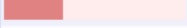
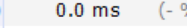


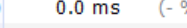

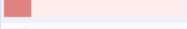
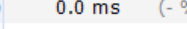

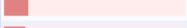
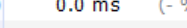

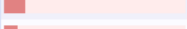
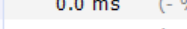


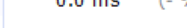


Tiempo de corrida para cada tipo de árbol



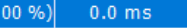

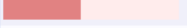
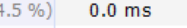

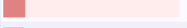
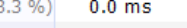

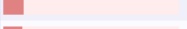
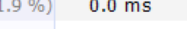

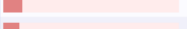
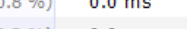

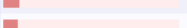
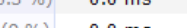


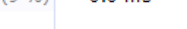
HashMap

Complejidad: $O(1)$

Name	Total Time	Total Time (CPU)
 main	 0.765 ms (100 %)	 0.0 ms (- %)
 Maps.Hash ()	 0.252 ms (32.9 %)	 0.0 ms (- %)
 Maps.Nombre_de_producto (String, int)	 0.135 ms (17.6 %)	 0.0 ms (- %)
 Maps.Everything (int)	 0.119 ms (15.6 %)	 0.0 ms (- %)
 Maps.Datos_producto_nombres (int)	 0.104 ms (13.6 %)	 0.0 ms (- %)
 Maps.AddValor (String, String, int)	 0.092 ms (12 %)	 0.0 ms (- %)
 Maps.Datos_producto (int)	 0.062 ms (8.1 %)	 0.0 ms (- %)


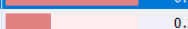
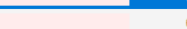

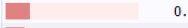





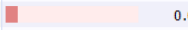


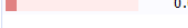






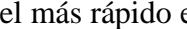
TreeMap

Complejidad: $O(\log(n))$

Name	Total Time	Total Time (CPU)
 main	 0.731 ms (100 %)	 0.0 ms (- %)
 Maps.Tree ()	 0.325 ms (44.5 %)	 0.0 ms (- %)
 Maps.Datos_producto_nombres (int)	 0.097 ms (13.3 %)	 0.0 ms (- %)
 Maps.Nombre_de_producto (String, int)	 0.087 ms (11.9 %)	 0.0 ms (- %)
 Maps.Datos_producto (int)	 0.079 ms (10.8 %)	 0.0 ms (- %)
 Maps.Everything (int)	 0.075 ms (10.3 %)	 0.0 ms (- %)
 Maps.AddValor (String, String, int)	 0.066 ms (9 %)	 0.0 ms (- %)

LinkedHashMap

Complejidad: $O(1)$

Name	Total Time	Total Time (CPU)
 main	 0.648 ms (100 %)	 0.0 ms (- %)
 Maps.Linked ()	 0.229 ms (35.3 %)	 0.0 ms (- %)
 Maps.Datos_producto_nombres (int)	 0.124 ms (19.1 %)	 0.0 ms (- %)
 Maps.Datos_producto (int)	 0.100 ms (15.4 %)	 0.0 ms (- %)
 Maps.Everything (int)	 0.073 ms (11.3 %)	 0.0 ms (- %)
 Maps.Nombre_de_producto (String, int)	 0.063 ms (9.7 %)	 0.0 ms (- %)
 Maps.AddValor (String, String, int)	 0.057 ms (8.8 %)	 0.0 ms (- %)

Al analizar los resultados obtenidos con el profiler se puede observar que el más rápido es el LinkedHashMap, ya que obtuve un tiempo menor en cada uno de los métodos. Aun así, no hay una gran diferencia entre los 3 tipos. Se concluye que la complejidad del HashMap es de $O(1)$ ya que el tiempo no varia sin importar la cantidad de datos.