

a. Team number: 6

Project Title: Movies Database

**Group Members:**

Abdullah Malik

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b. Introduction: Our project, as the name suggests, is a Database consisting of movies, the database includes the primary key, movie title(secondary key), its release date, the country of production, its director, and its age rating. The program will require an input file and will get the data taken from the file and input it into an online database, where it will create a hash table, sorted based on the primary key and a tree, sorted based on the secondary key. The program will display the sorted version of the list. The program will allow for new inputs of movies as well as the option to delete a movie. One can also search for movies based on their primary key or their secondary key, in the case of the secondary key search all movies with the same key will be displayed. Finally, the program will right the data onto a file and exit.

c. Data Structure Design

Id:5,Id:7,Id:8	Id:3	Id:4	Id:1,Id2	Id:6	NULL
Id:5	Id:3	Id:4	Id:1	Id:1	
↓	↓	↓	↓	↓	
Id:7	NULL	NULL	Id:2	NULL	
↓			↓		
Id:8			NULL		



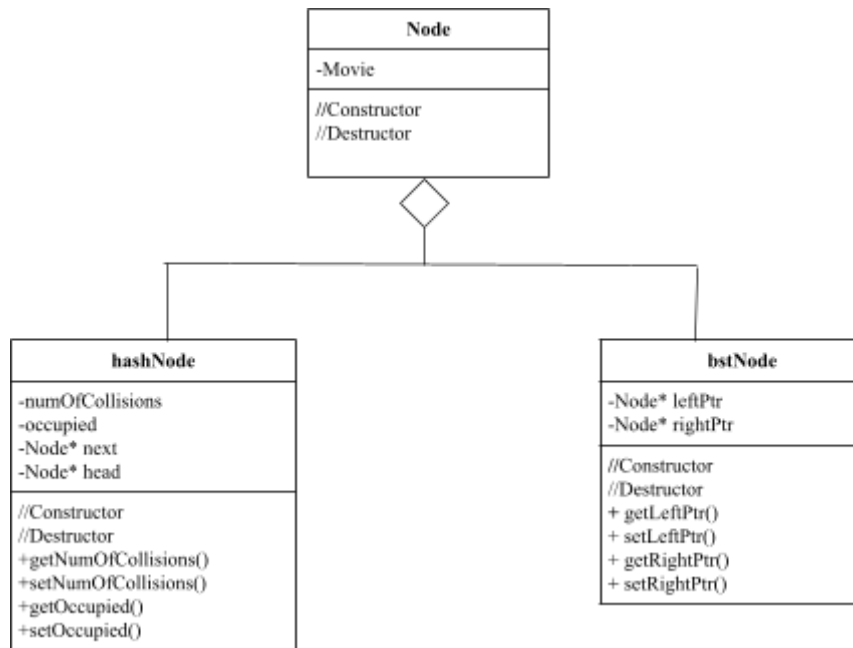
NULL

#### d. Class Diagrams

Movie
<ul style="list-style-type: none"><li>-Id</li><li>-Title</li><li>-Language</li><li>-Year</li><li>-Director</li><li>-isAdult</li></ul>
<ul style="list-style-type: none"><li>//Constructor</li><li>//Destructor</li><li>+setId()</li><li>+getId()</li><li>+setTitle()</li><li>+getTitle()</li><li>+setLanguage()</li><li>+getLanguage()</li><li>+setYear()</li><li>+getYear()</li><li>+setDirector()</li><li>+getDirector()</li><li>+setAdult()</li><li>+getAdult()</li><li>//Overloaded operators</li><li>+ &lt;&lt;</li><li>+ &gt;</li></ul>

movieBST
<ul style="list-style-type: none"><li>_display()</li><li>_inorder()</li></ul>
<ul style="list-style-type: none"><li>//Constructor</li><li>//Destructor</li><li>+isEmpty()</li><li>+insert()</li><li>+delete()</li><li>+inOrder()</li><li>+indentTree()</li><li>+display()</li><li>+search()</li></ul>
<ul style="list-style-type: none"><li>#root</li><li>#count</li></ul>

movieHashTable
<ul style="list-style-type: none"><li>-hashSize</li><li>-LoadFactor</li><li>-count</li></ul>
<ul style="list-style-type: none"><li>//Constructor</li><li>//Destructor</li><li>+insert()</li><li>+remove()</li><li>+search()</li><li>+rehash()</li></ul>



e.

f.

Each member's task

Abdullah Malik	
Arnesh Regmi	
Ulysses Morgan	
Sunho Kim	

g. Hash function raw code

h. Collision resolution method

i. other...