**OOA 1**

**Finding Classes and Objects**

Search Engine

Document

CLI

Query

Single-word query

Multi-word query

**Finding Attributes**

Stoplist

Inverted Index

Documents

Words

Name

Text

**Finding Services**

Actual search method

Results from the search

Full documents from the search

Check if the word is a stopword

Break down query to only include non-stop words

Check if the word is in the document

Store inverted index as a hash

**Finding Inheritance**

Single-word Query is-a Query

Multi-word Query is-a Query

**Finding Delegation**

Search Engine has-a Document

**Filtering**

CLI is an OOD issue, so not concerned with it for now

**OOA 2**

Final Classes: Search Engine, Document, Query, Single-word Query, Multi-word Query

Class Document

Attributes:

Name - Name of the Document

Text - Text of the Document

Services:

Has word - Checks to see if the document has the word being searched for

Class Query

Attributes:

Words - Words being searched for in documents

Inverted Index - Collection storing all the documents

that fit the query

Stoplist - List of all words that are not needed to search

Services:

Cut words - Change the words to only include non-stopwords

Is a stopword - Checks if the current word is a stopword

Class Single-word Query inherits Query

Attributes:

Words - Words being searched for in documents

Inverted Index - Collection storing all the documents

that fit the query

Stoplist - List of all words that are not needed to search

Services:

Cut words - Change the words to only include non-stopwords

Is a stopword - Checks if the current word is a stopword

Class Multi-word Query inherits Query

Attributes:

Words - Words being searched for in documents

Inverted Index - Collection storing all the documents

that fit the query

Stoplist - List of all words that are not needed to search

Services:

Cut words - Change the words to only include non-stopwords

Is a stopword - Checks if the current word is a stopword

Class Search Engine

Attributes:

Documents - List of all documents

Services:

Search - Searches the documents for the query

Store index - Stores inverted index