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Software Design & Development
CFS2160

Week 17 – Java Documentation

Session Plan

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- Discuss the importance of the Java Documentation.
- Take a look at the Java Documentation.
- Libraries
- A few questions about it
- Finally.

Java Libraries

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We can add extra functionality to our programme by importing additional libraries into our code. This allows us to use pre-existing classes to complete common and repeating tasks.

The majority of what we want to do has, most likely been done before. There is no value in creating code for these common tasks as it will probably be already within Java.

As programmers we need to learn the following:

1. It has been done before?
2. How do we use it?

If a library exists with the functionality we need, we do not need to know what it does or how it works, just how we can use it to our advantage!

We then add code to our programme that stiches the existing Java classes together to get the functionality we require.

Java Documentation home page

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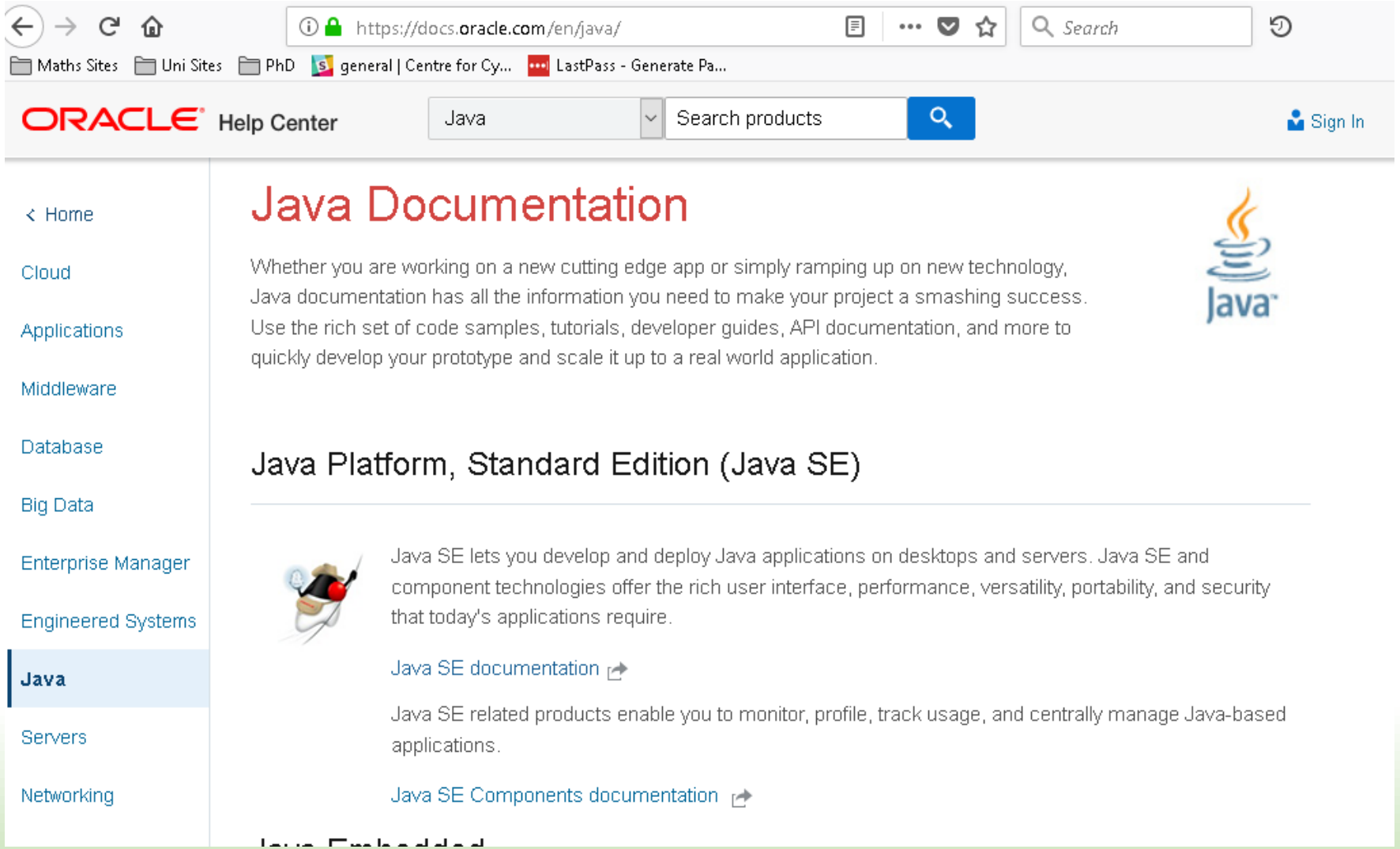

Java Documentation

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Handily, Java has an in depth set of documents on its website to support a programmer in their work.

We are currently using Java version 8 so lets start there.
https://docs.oracle.com/en/java/

Search for ArrayList (version 8) as it is something we already know about.
https://docs.oracle.com/javase/8/docs/api/java/util/ArrayList.html

The documentation tells us a load of information about the ArrayList class, in particular its constructor and its methods.

Looking At ArrayList

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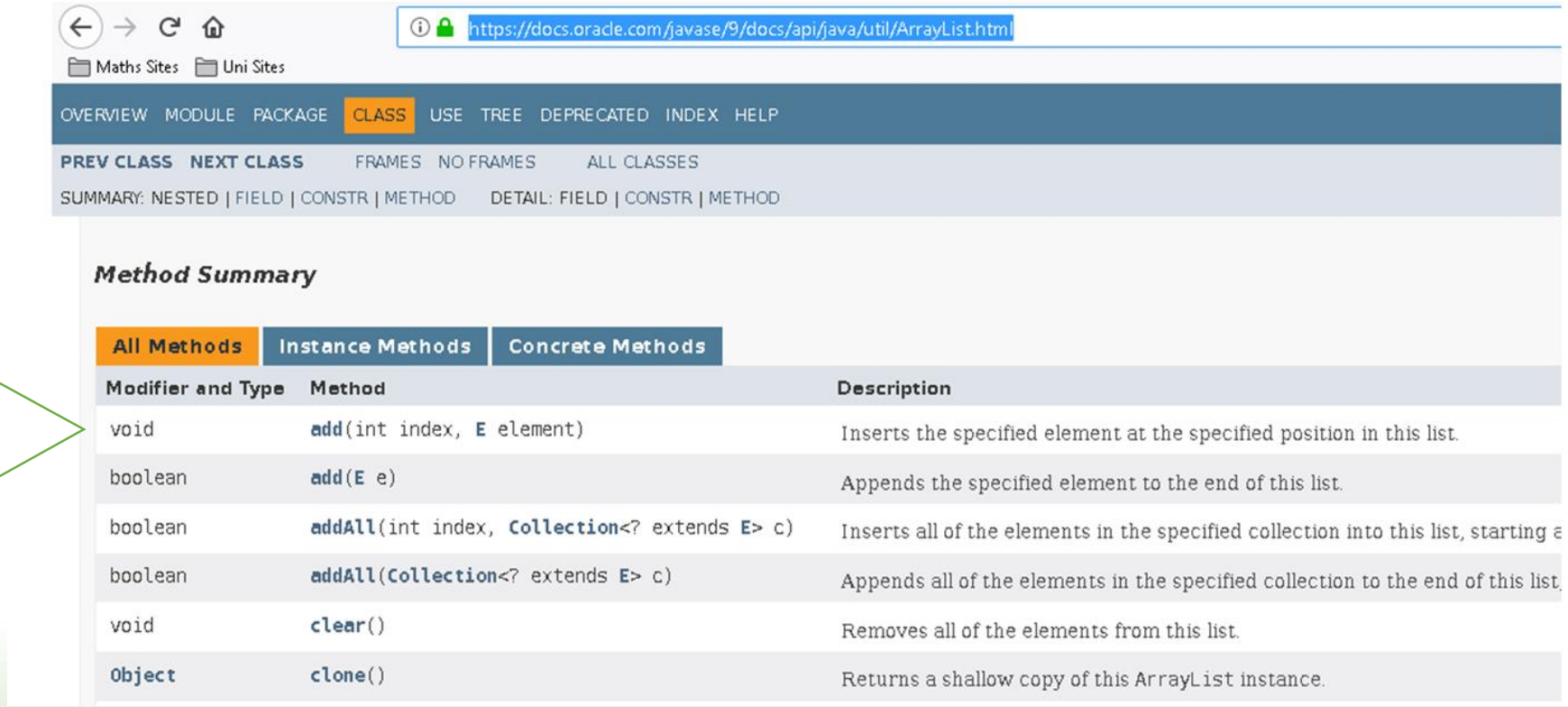
We can view information about all the methods available in the ArrayList package, as Tony says, "We do not need to know how it works, just how to use it!"

Method summary tells us all the method available to use in ArrayList.
You have used the .add() method many times before.
The documentation tells us what is does, what values we can pass and what the method returns.



ArrayList Questions

Find the relevant information from Java Docs

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1: What is the return type of the size() method?

2: What does the method size() return?

3: How many different ways can the constructor be called?

4: What does the subList() method do?

ArrayList Questions

Find the relevant information from Java Docs

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1: What is the return type of the size() method?

int

2: What does the method size() return?

Returns the number of elements in this list.

3: How many different ways can the constructor be called?

3

4: What does the subList() method do?

Returns a view of the portion of this list between the specified fromIndex, inclusive, and toIndex, exclusive

ArrayList Questions

Find the relevant information from Java Docs

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1: What is the name of the library in which ArrayList is contained?

Java.Utils

2: What is the initial size of an ArrayList when constructed?

The default size of an ArrayList is 10 until is has an item has been added to it.

3: How would we create an ArrayList with an initial size of 20?

```
private ArrayList<Team> teams = new ArrayList<>(20);
```

4: ArrayList has two versions of the add() method, what is the difference between them?

1 adds an element to the end of the list and returns true if successful, the other inserts an element at a given index and returns void.

Finally

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1. Have a look at the Java Documentation.
2. Search for a few known classes, such as String, Int etc.
3. See if there are any methods you recognise, read what they do and how you can use them in your code.

It is worth remembering, many of the things you wish to code in your application, probably already exist in a Java library!