

Hi.  
  
In this video we provide a short introduction to the class and some motivation of why are we studying what we are going to study?  
  
So what we are going to study is information and data, as you might have figured from the title, but so why are we going to study it?  
  
Well, you might know that data is really nowadays ubiquitous.  
  
Wherever you look, you see data, data, data.  
  
So for example, you all are using your phones all the time or your laptops to just surf the web.  
  
The web is full of data as you can find and we can search it using some search engines.  
  
Other type of data, however, is more structured.  
  
So for example, large organisations nowadays provide a lot of open data, so you can look at public transport, like Transport for Edinburgh or probably also in Glasgow, you have their open data websites which allow you to access all kinds of information about timetables and so on.  
  
Then you have governmental data.  
  
So the Scottish government, for example, has a huge portal of open data where you can access data about all areas of Scotland, all kinds of information about what schools are there, facilities like even petrol stations, fire stations and so on, you can access all openly via their government website.  
  
Further up in the line, there's also European data.  
  
So also in the European Union you have a huge portal of European data that you can access and you find out a lot of information about the various countries and the regions and so on and so on.  
  
So large organisations provide loads of data, but why are they doing it, you wonder?  
  
Clearly they don't do it because they just do this as a favour to you.  
  
What they want, in fact, is that people are using this data to provide us with data driven applications that make use of this data.  
  
For example, the Transport for Edinburgh wants you to design an app that allow you to cheque the timetable.  
  
Or if you want the Scottish government data you can use for all kinds of things, we have used it here for planners that allow you to cheque which area in a city is particularly good for living if you are a family or something like this?  
  
So you can use this in multiple ways.  
  
And so I invite you to cheque out those websites.  
  
We will provide the links to figure out for yourself what are the information available and what's interesting to you.  
  
So data is really everywhere available and has a lot of applications.  
  
Finally, of course, data is not just available, but it's also in the daily news.  
  
So I just mentioned one brief term, I think you might all have heard of Cambridge Analytica.  
  
And so data is not only of relevance to programmers, but in general for society, as we figured out by now.  
  
And in fact, data is not only about Earth.  
  
So if you are interested in kind of more going beyond the planet, going to the sky, there's also loads of data about the planets and there's open data and you're invited to look for new star constellations and so on.  
  
And I will also provide you a link on this.  
  
So, clearly, data is everywhere, but what do we use it for?  
  
Well, we particularly want to use it in our jobs, right?  
  
As computer scientists, there are several job roles that we can fulfil.  
  
There's for example, data administrator, database administrators and database designers.  
  
And they have all the various roles to fulfil with respect to databases.  
  
And this class provides you the right background.  
  
And finally, there are, as I said, application programmers, IT use just the data and end users.  
  
So even if you're not working with databases as such, you will also use a database in your job in many cases.  
  
So this class will provide you with the key background for these roles and the key skill in all of those is SQL, which is one of the main topics of this class.  
  
So we've seen that data is everywhere and it's useful in your job.  
  
And it's also useful not only for industrial jobs, but also in academia, in fact.  
  
So not even only limited to computer science.  
  
In our business school, people are studying data science.  
  
And in all different fields of sciences, people are more and more into data science because they realise that you can learn a lot from studying the data in a systematic way.  
  
So whatever you do in your later life, data science can help you.  
  
That brings me to the question, well, what actually are we going to look at in this class?  
  
Is it really like all of data science?  
  
Is it big data or what?  
  
So big data probably you all heard about, because it's continuously in the news.  
  
So big data is something not very well defined and it's basically just expressing that it's a huge amount of data that we cannot really handle properly with existing methods.  
  
So where did we get this huge amount of data from?  
  
So one thing is that we have sensors everywhere nowadays.  
  
We have cameras recording the roads, we have temperature measurements, we have, for example, counters here in Glasgow that count how many people walk up and down Buchanan Street.  
  
So, and if you just keep those things running, you just collect a lot of data.  
  
And the question is, once you have this data, how can we make decisions based on this data and how can we make them quickly?  
  
And so this is the whole field of big data and making decisions based on big data.  
  
And I have to say, it's everywhere in the news.  
  
But this is not the content of this class.  
  
So this is.  
  
This might be a content of another class but this is not this module.  
  
In this module what we are doing is we are doing something more traditional.  
  
So what we are trying to do is we are trying to store information in an easily accessible and maintainable way so we have a chunk of information that we want to store such that other people can use it and access it properly.  
  
This will raise some natural questions.  
  
So first of all what's the natural structure of data?  
  
How do we store data?  
  
And secondly how do we then once we stored it, query it?  
  
So what is the language for querying it?  
  
And so we will have two answers.  
  
The natural structure of data we will say is a relation and the query language for accessing it will be SQL and these two things are really the main core of this class and I hope we will all enjoy it together.  
  
Thanks for watching.  
  
See you in the next video.