



Gateway: Progression BTEC ICT

Contents:

- I. Unit 2 - Database Design
- II. Unit 3- Social Media in Business
- III. Unit 6 - Website Design



Year 12 BTEC ICT

Part One: Unit 2 Databases

TASK ONE: Make **detailed notes** about **who uses databases and why?** (approx. 2 pages)

You may want to use a text book to do this. You can purchase the book we use - Pearson BTEC National Information Technology student book (for the 2016 specification) and there is a revision guide Pearson BTEC National Information Technology Revision Guide.

Alternatively you may use the internet to do your research. Use the key phrase **uses of database.**

TASK TWO: Identify the key elements of both a **Flat File** and **Relational Database** (approx. 2 pages), and complete the **key terms definitions below**

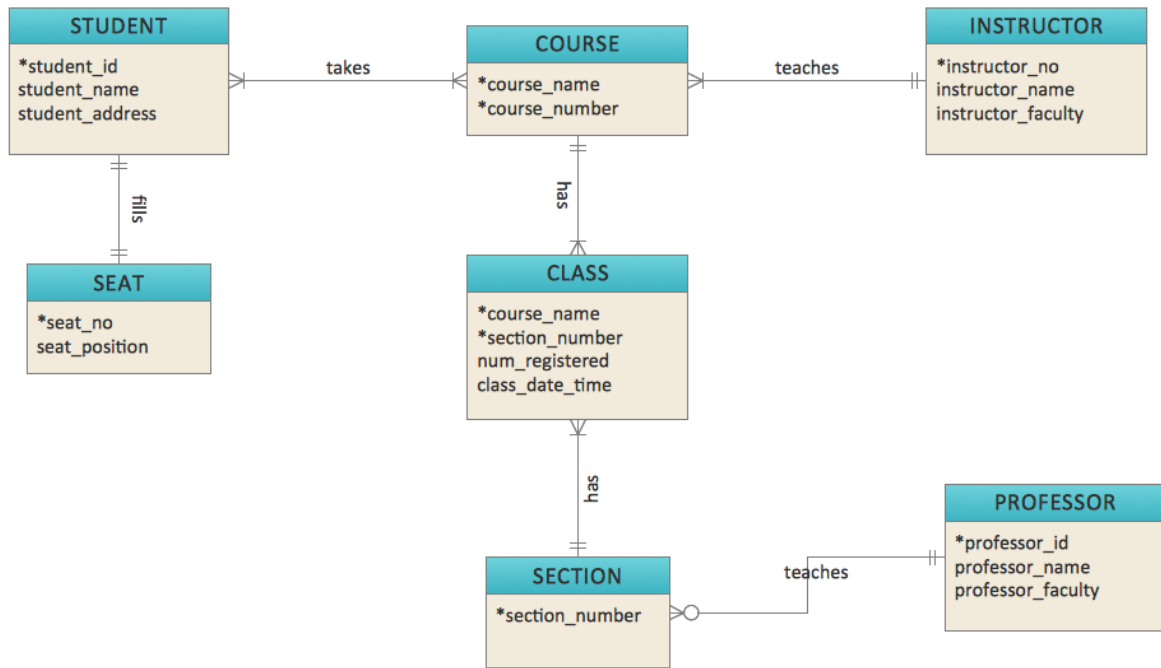
1. Entity
2. Attribute
3. Data Type
4. Primary Key
5. Foreign Key
6. Composite Key
7. Validation
8. Relationship

Use the internet using the search keywords **flat file database** and **relational database** and define them .

ERD (Entity Relationship Diagram)

Task 1: Watch the following video (<https://www.youtube.com/watch?v=QpdhBUYk7Kk>)

Task 2: Here's a sample crow's foot diagram from a past offering of CS270 taught here at the University of Regina. We've redrawn the diagrams using more modern diagramming tools, but the content is unchanged. It uses a lot of ERD symbols, so you might want to use Vivek Chawla's quick guide while you read it.



Quick Questions

How many **entities** are there in this diagram and what are they?

What are the **attributes** for entity **STUDENT**?

What is the **primary key** for **STUDENT**?

What is the **primary key** for **COURSE**?

What **foreign keys** do **STUDENT** and **COURSE** contain?

Description

Create an appropriate Entity Relationship Diagram (ERD) for the data associated with an online application. This ERD should include the user accounts, posts and re-posts tables. To get you started, you can follow the example given below.

User table

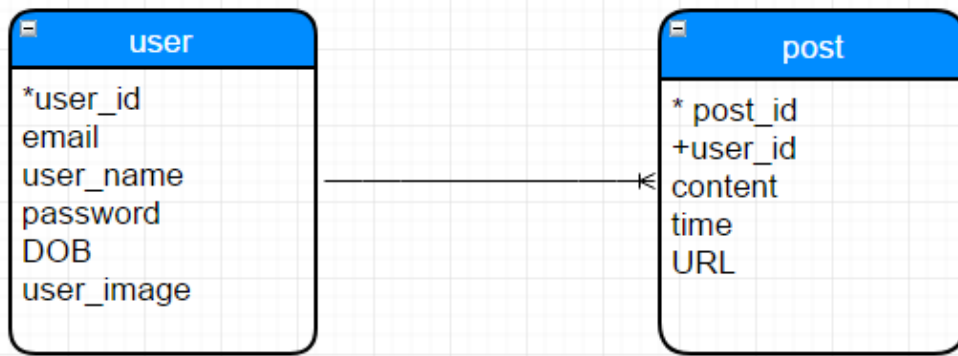
The User table collect attributes: user_id(*primary key), user_email, user_name, user_password user_DOB, User_image and etc.

Post table

The post table collect attributes: post_id(*primary key), user_id (+foreign key), post_detail, post_date, URL and etc.

Re-post table

What attributes should Re-post table collect? Re-draw the entity relationship diagram showing the third entity, attributes and relationships



Case Study

Mary is a small library owner, she has been recording issues by an out of data card system. She want to move into the digital world and wants you to change her card system into an access database.

She needs to store information on clients, Book Borrows, and books. Books have their own ISN numbers, but she also wants her own unique numbering system per book. Draw an ERD showing the attributes, possible entities and relationships between the three tables.

Part 2 Unit 3- Social Media in Business

Students should familiarise themselves with social media. You should examine how businesses use Facebook and Twitter and become familiar with how they work.

Young people in the UK regard Facebook as something that old people use. However, by numbers, it is still by far the most widely used social platform.

Watch this short video on ways businesses can use Facebook other than just “spamming” page followers with ads.

We will not necessarily be focusing on how social influencers on other platforms (such as Instagram or TikTok) work on behalf of businesses. We will not just be focusing on the well-known aspects like advertising or sponsored posts.

Find examples for, and explain:

- Other than advertising or sponsored posts, how do businesses present themselves on Facebook and Twitter?
- How do businesses use social media to communicate directly with customers to resolve issues and provide customer service? What examples can you find?
- How do businesses use social media to create brand awareness?
- How have businesses used social media in a way that was not expected, or where risks and issues (e.g., hacking, inappropriate conduct) have not been managed?

Social Media can be a fantastic tool in engaging your target market, promoting sales and becoming more competitive. There have however, been many instances of poor use of social media - read through this article and write a half page review explaining how organisations have used social media badly.

<https://www.falcon.io/insights-hub/topics/social-media-strategy/15-brands-most-embarrassing-instagram-marketing-mistakes/>

Audience Profile - What is an audience profile? (I don't know...Can you find out and write down your response below.

Using your understanding on audience profiles - Complete research on 5 common social media sites and describe which audience profiles most commonly use that particular site.
(Age, location, Salary, Gender)

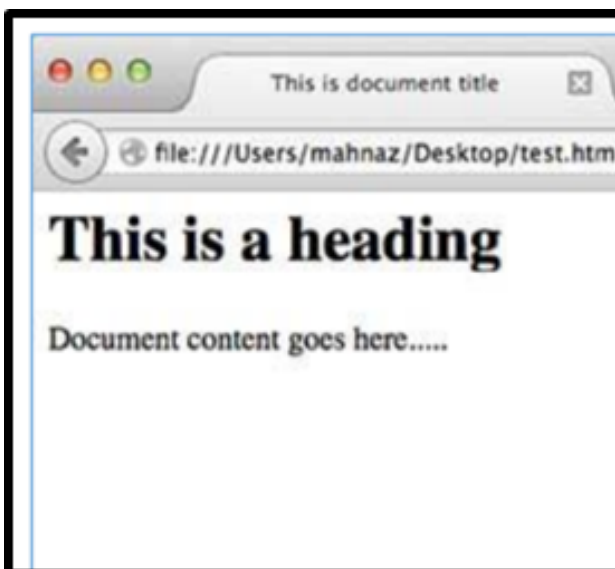
Part 3- Unit 6 Developing website in HTML

Another unit you will be studying in year 12 is unit 6 website design. In this short introduction you are going to use your knowledge HTML syntax to design a website page.

Figure 1: HTML source code in its simplest form

```
<!DOCTYPE html>
<html>
<head>
<title>This is document title</title>
</head>
<body>
<h1>This is a heading</h1>
<p>Document content goes here.....</p>
</body>
</html>
```

Copy this code down using notepad or any other text editor. Now, let's save it in an HTML file test.html using your favorite text editor. Finally open it using a web browser like Internet Explorer or Google Chrome, or Firefox etc. It must show the following output:



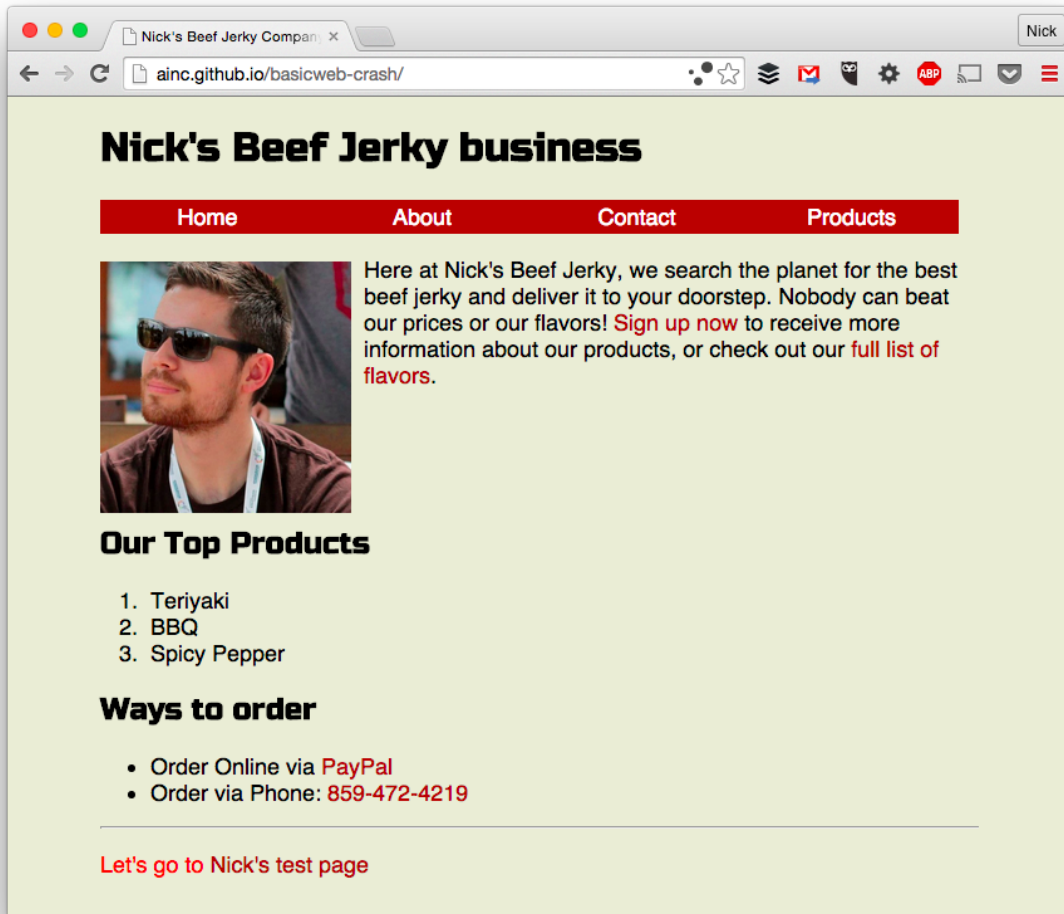
Final Task- BTEC ICT Website Page

Using the w3schools website, attempt to create a website with working hyperlinks, images, background colors and text to provide information on the following

1. Unit 2- Database Design
2. Unit 3 - Social Media in Business
3. Unit 6- Website Design

https://www.w3schools.com/html/html_examples.asp

To effectively use the w3schools website, simply search for the website feature you are looking for, for example, buttons!



This resource is strictly for the use of member schools for as long as they remain members of The PiXL Club. It may not be copied, sold, or transferred to a third party or used by the school after membership ceases. Until such time it may be freely used within the member school.

All opinions and contributions are those of the authors. The contents of this resource are not connected with, or endorsed by, any other company, organisation or institution.

PiXL Club Ltd endeavour to trace and contact copyright owners. If there are any inadvertent omissions or errors in the acknowledgements or usage, this is unintended and PiXL will remedy these on written notification.