**3 A-2**

At the beginning of each php file session\_start is used to start the session.

We have used session variables ($\_SESSION) to identify each user when they have logged in. Two variables are used; one to store the username and the other to say that the user is logged in, this is to ensure if the user is not logged on, each page will redirect them to the log in page (using if/else statements). Preg\_match has been used to validate the email address upon registration to ensure that an @ symbol and a dot “.” is included in their email address. If preg\_match is false the user will receive an error message saying the email is invalid and asks them to try again. We have added a query so that if the username is already in the database it will display an error message “Username already exists. Please choose another username.

The password is encrypted using md5 making it more secure to store there users password and we have also added mysqli\_real\_escape\_string which adds backslashes to vulnerable characters. Upon valid entries the inputted information is entered into the database using the sql INSERT query. Strlen is used to check the length of the password so that if it’s less than 6 characters the users then receives an error message to say password must be more than 6 characters and asks them to try again.

**3 B**

The array, which contains all of the links sql1.php through to sql10.php is stored in sessions so that it can be accessed on every page.

The shuffle array mixes the array elements so they are not in order.

Array pop returns the last element in the array and removes it from the array stack.

Pagetrack is set to the current base name on start.php and all other pages sql1.php to sql10.php. Basename gets the name of the file that the user is currently on.

On each page, the session “pagetrack” is echo’d as the link to the previous page, then it is reset to the current page basename.

On start.php the counter, which is a session variable (so that it can be used across multiple pages), is set to 0. On each page 1 is added to the counter, when the counter reaches 10 the next page option will not be displayed.