using mysql and php

- basically, there are four things you want to be able to do from within php:
  - connect to the mysql database
  - disconnect from the mysql database
  - execute mysql queries
  - check the status of your mysql commands
- queries can be any kind of mysql query, including SELECT, UPDATE, INSERT, etc.
- following SELECT queries, you can execute mysql/php functions to put the data read from
  the mysql database into your php variables

connecting to the mysql database

- here is an example of connecting to the database:
  ```php
  $conn = mysql_connect( $mysql_host, $mysql_user, $mysql_password )
  or die( 'Could not connect: ' . mysql_error() );
  echo 'Connected successfully';
  mysql_select_db( $mysql_db ) or die( 'Could not select database' );
  ```
- replace the variables $mysql_host, $mysql_user, $mysql_password and $mysql_db
  with strings containing the values for your database
- notice that there are two functions invoked
  - one that logs into mysql: mysql_connect()
  - one that selects the database to use: mysql_select_db()
check the status of your mysql commands

- if errors occur, the functions return errors
- these errors can be read as strings using the function mysql_error()
- note the usage in this statement:
  $conn = mysql_connect( $mysql_host, $mysql_user, $mysql_password )
  or die( 'Could not connect: '. mysql_error() );
  echo 'Connected successfully';

execute mysql queries

- here is an example of executing a SELECT query:
  // set up and execute the MySQL query
  $query = 'SELECT * FROM my_table';
  $result = mysql_query( $query )
  or die( 'Query failed: '. mysql_error() );
  // print the results as an HTML table
  echo "<table>
  while ( $row = mysql_fetch_array( $result, MYSQL_ASSOC ) ) {
    echo "\t<tr>\n    foreach ( $row as $item ) {
      echo "\t<td>$item</td>\n    }\n    echo "\t</tr>\n  }\n  echo "</table>\n  // free result
  mysql_free_result( $result );

there are three functions used here
- one to execute the query and store the result in a local variable: mysql_query()
- one to parse the data read returned from the query as an array: mysql_fetch_array()
- one to free the memory used by the query result: mysql_free_result()

NOTE that if the result returned is a scalar and not an array, then only mysql_query() needs to be called and does not need to be followed by a call to mysql_fetch_array()

finally, note the use of mysql_error() in the query function

other handy functions

- there is a long list of php/mysql functions
- the whole list is available on the web page listed on the first page of these notes
- here are a few of the more handy functions:
  - int mysql_num_rows ( $result ) this function returns the number of rows contained in a $result; this is relevant when the result returned from mysql_query() is an array and not a scalar
  - int mysql_affected_rows ( $conn ) this function returns the number of rows that were affected by the most recently executed INSERT, UPDATE, REPLACE or DELETE query; this is useful for checking if what you expected to happen with these commands actually happened (e.g., if the row you expected to insert was inserted, etc.)
- int mysql_insert_id ( $conn )
  this function is used when inserting a row into a table that has an AUTO_INCREMENT ID field; the function returns the ID number that was generated

- string mysql_stat ( $conn )
  this function returns a string containing information about the status of the current database connection