

Assignment 5 - The Quiz

38 pts

In this assignment, you are creating a single program that has been broken into smaller components. The program will be able to create multiple choice and true/false questions used to build a simple quiz. The questions will be stored in a text file, and you will be able to take the quiz and determine your grade.

```
In [1]: // display your student name and id with some unicode characters  
// be imaginative!
```

Name: Jane Doe, StudentID: w123456

Part A - Run the Quiz (17pts)

For this part of the assignment, you will create a sample quiz file and then run the quiz to display the questions.

The quiz file has this structure:

```
<question type>,<question>,<answer>,<additional question details>
```

True/False questions look like this:

```
TF,This is a sample question.,T
```

Multiple choice questions look like this:

```
MC,This is a sample question.,2,Choice 1,Choice 2,Choice 3,Choice 4
```

To read a quiz file, you use the following command line parameters:

```
node quiz.js run <filename>
```

Example,

```
node quiz.js run quiz.txt
```

```
In [2]: // start the program by creating a "main" function that reads in the two command  
// line parameters the program should exit if there are invalid parameters.  
// the first parameter will be either 'create' or 'run', the second parameter will  
// be a filename. the function will then call either "create" or "run"  
// depending on the parameter passed to the command line  
// 2 pts  
  
// put your completed code here  
function main() {  
}
```

```
In [3]: // make a function that create a sample quiz file that consists  
// of 1 true/false question and 1 multiple choice question (in that order)  
// the correct answer to the true/false question should be *true*.  
// the correct choice to the multiple choice question should be *2*,  
// the second out of a possible 4 choices.  
// 2 pts  
  
// put your completed code here  
function createSample(filename) {  
}
```

In [4]:

```
// create a function that will take a question and an answer
// from a true/false question and display it to the user
// the function will take the user's response and return
// whether they answered it correctly as a boolean value
// 2 pts

// put your completed code here
function displayTrueFalse(question, answer) {
}
```

In [5]:

```
// create a function that will take a question, an answer, and choices
// and display a multiple choice question to the user
// the function will take the user's response and return whether they
// answered it correctly as a boolean value
// 3 pts

// put your completed code here
function displayMultipleChoice(question, answer, choices) {
}
```

In [6]:

```
// create a function that will take a line of quiz data as a parameter
// and call one of the previous display functions based on the 'type'
// of question (functionined by the first value in the line of quiz data)
// the function should return the boolean values returned from the
// display functions
// 4 pts

// put your completed code here
function displayQuestion(line) {
}
```

In [7]:

```
// create a function that will open the file for reading
// the function will read in each line of the file
// and call "display_question" with the contents of a line
// the function should return the total number questions and
// the total number of correct answers as an array
// 4 pts

// put your completed code here
function run(filename) {
}
```

Part B - Create the Quiz (13pts)

For this part of the assignment, you will create questions for the quiz and generate a new quiz file.

To create a quiz file, you use the following command line parameters:

```
node quiz.js create <filename>
```

Example,

```
node quiz.js create quiz.txt
```

In [8]:

```
// make a function that creates a line of the quiz file
// for a true/false question. the function will ask the
// user to enter the question and what the correct answer is
// 2 pts

// put your completed code here
function createTrueFalse() {
}
```

In [9]:

```
// make a function that creates a line of the quiz file
// for a multiple choice question. the function will ask
// the user to enter the question, the different choices
// to pick from (ENTER to end) and the correct answer
// 4 pts

// put your completed code here
function createMultipleChoice() {
}
```

In [10]:

```
// make a function that will ask the user which type of question
// they want to create (MC or TF), then call the appropriate
// create function above. the function will return the line
// of data that is returned from the other create functions
// 3 pts

// put your completed code here
function createQuestion() {
}
```

In [11]:

```
// make a function that creates a new, empty file using the filename passed in as
// a parameter. the function will then call 'create_question' to add new questions
// to the file until the user has finished
// (ensure that the file is closed properly)
// 4 pts

// put your completed code here
function create(filename) {
}
```

Part C - Pull Everything Together! (10pts)

For this part of the assignment, you will create a complete JavaScript program using all the functions you have created. The final program will allow the user to either create or run a quiz, based on the command line arguments passed.

Submit the completed JavaScript ".js" file, along with a PDF of the source file, and include a Word document showing screenshots of your program working (similar to the images below).

```
$ node quiz.js create quiz.txt
What type of question do you want to create (MC, TF or ENTER to end)? MC
Enter the question: What's your favourite colour?
Enter a possible answer (ENTER to end): Red
Enter a possible answer (ENTER to end): Blue
Enter a possible answer (ENTER to end): Green
Enter a possible answer (ENTER to end): Orange
Enter a possible answer (ENTER to end):
What's your favourite colour?
1) Red
2) Blue
3) Green
4) Orange
Which one is the correct answer: 2
What type of question do you want to create (MC, TF or ENTER to end)? TF
Enter the question: Programming is fun!
Enter the answer (T/F): T
What type of question do you want to create (MC, TF or ENTER to end)?
$ █
```

```
$ node quiz.js run quiz.txt
What's your favourite colour?
1) Red
2) Blue
3) Green
4) Orange
Enter choice: 1
Incorrect. The answer is '2'.
--
Programming is fun!
Is this statement true or false? (T/F): T
Correct!
--
You have 1/2 (50.00%) correct.
$ █
```