**General functions:**

function checkHash:

datetime hashtime

str md5\_hash

return true if hash matches, false if not

test: hash matches, hash doesn’t match

function getStudentByTid (Database)

int tid

return student object that matches tid

test: student exists, student doesn’t exist

updateProfessorToken/updateStudentToken first time using the system, must add token.

**Professor functions:**

function: professor\_first\_login

str loginid (max 15)

str title (max 24)

str last\_name (max 40)

str first\_name (max 40)

str token (max 40)

return professor object if successful, tid > 0, if unsuccessful, tid is null.

test: professor already exists, professor doesn’t exist

function professor\_class\_list – list of classes available to professor

int professor\_tid

datetime hashtime

str md5\_hash

returns list of classes for given professor\_tid, empty list of no professor/class combo exists

[{class\_tid, course\_tid, professor\_tid, section}]

test: professor exists/professor doesn’t exist

function set\_class - used by professor to make class available to login

int professor\_tid

datetime hashtime

str md5\_hash

int class\_tid

returns datetime date\_set\_time (logins will be checked against this)

returns str verify\_code – you can safely ignore this for now. This is that verify code we talked about before, but we’re not using it yet. We may get to it, but probably not.

test: professor/class combo exists, professor/class combo doesn’t exist

function attendance\_by\_date – gives list of students present/absent on given date

int professor\_tid

datetime hashtime

str md5\_hash

int class\_tid

date class\_date

returns list of students and whether they were present or absent

[{(student)tid, last\_name, first\_name, code for that day (see student\_login function for codes)}]

test: professor/class combo exists, professor/class combo doesn’t exist

function set\_attendance

int professor\_tid

datetime hashtime

str md5\_hash

int student\_tid

int class\_tid

date class\_date

int attendance\_code (see student\_login function for codes)

returns positive integer - which will happen to be the tid for that login - for success, < 1for error

test: professor/class exists, check if professor/class doesn’t exist, check if student/class exists, check if student/class doesn’t exist.

functions attendance\_by\_student

int professor\_tid

datetime hashtime

str md5\_hash

int student\_tid

int class\_tid

returns list of class dates and attendance codes:

[{date, code}]

test: professor/class exists, check if professor/class doesn’t exist, check if student/class exists, check if student/class doesn’t exist.

**Student functions:**

function: student\_first\_login

str loginid (max 15)

str last\_name (max 40)

str first\_name (max 40)

str token (max 40)

return student object with tid > 0 if successful, student with null tid if not successful

test: student already exists, student doesn’t exist.

function student\_list – list of classes available to student

datetime hashtime

str md5\_hash

int student\_tid

returns list of classes for given student\_tid, empty list if no student/class combos exist

{course\_tid, class\_tid, section}

test: student already exists, student doesn’t exist.

function student\_login – student uses to mark self present

datetime hashtime

str md5\_hash

int student\_tid

int class\_tid

str ip\_address (max 24)

float latitude

float longitude

returns integer:

0 – successful login

1 – login more than 1 hour after set\_course

2 – login more than 3 hours after set\_course

3 – md5\_hash failed

4 – other error

test: each possible outcome