**Take Home: Quiz 4 (15 pts) – Iteration and Loops**

Using Canvas <https://canvas.wsu.edu/>, please submit your solution to the correct quiz folder. Your solution should be a .pdf file with the name <your last name>\_quiz4.pdf and uploaded. To upload your solution, please navigate to your correct Canvas ***lab*** course space. Select the “Assignments” link in the main left menu bar. Navigate to the correct quiz submission folder. Click the “Start Assignment” button. Click the “Upload File” button. Choose the appropriate .pdf file with your solution. Finally, click the “Submit Assignment” button.

1. (5 pts) Draw a flowchart for an algorithm that finds the largest digit in a 0 or positive integer number. For example, if the given integer is 359, then the largest digit is 9. If the given integer is 6615, then the largest digit is 6.

A paper with writing on it

Description automatically generated

1. (2 pts – 1 pt for return type, 1 pt/parameter) Provide the prototype for a function called find\_largest\_digit() that accepts one integer and returns the largest digit in the number.

int find\_largest\_digit(int number);

1. (8 pts – 1 pt for the function header, 6 pts for algorithm, 1 pt for return value) Provide the function definition for find\_largest\_digit(). Also, be sure to provide the function header for find\_largest\_digit(). Precondition: input integer must be >= 0.

int find\_largest\_digit(int number) {

int remainder = 0, largest\_digit = 0;

do {

remainder = number % 10;

if (remainder > largest\_digit) {

largest\_digit = remainder;

}

number = number / 10;

} while (number != 0);

return largest\_digit;

}