UNIVERSITY *of* GUAM
Computer Science Department

Project 5: JavaScript Programming

Objective:

You will gain experience with the design and implementation of several JavaScript programs that utilize variables, operators, input, output, selection processing, and repetition processing.

Any browser can be utilized as a JavaScript debugging tool after you enable Script debugging and notification of every script error.

Requirements:

This Project consists of three parts. You should complete each part in sequential order because each problem becomes progressively more difficult. The program specifications presented are considered minimal efforts requirements. Please be creative about adding more features to each program.

Part A: *Course Grade Calculation (6 points)*

Write a JavaScript program that will determine the equivalent letter grade for the exams in this course that are worth 250 Points. There are four 50 point exams with the lowest score being dropped. The final exam is worth 100 points and may not be dropped. Score distribution is based on:
> 90% = A, 80% to 89.9% = B, 70% to 79.9% = C, 60% to 69.9% = D, and < 60% = F

Display your name the entered scores and resultant grade in the results. For extra work use the <del> element to describe which score was deleted to determine the results. Turn in problem solving phase that must include a flow chart and known test data. Print all code and output as it appears in a browser window.

Part B: *Income Tax Calculation (6 points)*

Write a JavaScript program that approximates the federal income tax for a single person. Prompt for the adjusted gross income for a citizen and number of exemptions. Subtract from the adjusted gross income the standard deduction of $4,750, and the exemption allowance of $3050 multiplied by the number of exemptions to determine Taxable Income. Use the Tax Rates below to determine the Tax. Display each of these items and your name in the browser window showing all calculations. Turn in problem solving phase that must include a flow chart and known test data. Print all code and output as it appears in a browser window.

Schedule X—Use if your filing status is **Single**

If the amount on Form 1040, line 40, is: *Over—*	*But not over—*	Enter on Form 1040, line 41	*of the amount over—*
$0	$7,000	..... 10%	$0
7,000	28,400	$700.00 + 15%	7,000
28,400	68,800	3,910.00 + 25%	28,400
68,800	143,500	14,010.00 + 28%	68,800

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Part C: *Test Score Distribution (8 points)*

Write a JavaScript program that prompts for test scores until a negative number (–1) is entered. Display in the browser window each of these valid scores. After the negative number is entered compute and display the high score, low score, and average (mean) score. Include your name in the output display. Test your program using 8 scores with a known high, low, and average score. Turn in problem solving phase that must include a flow chart and known test data. Print all code and output as it appears in a browser window.

Due Date and Grading:

Project 5 is due November 8, at the beginning class. Turn in a cover page that includes your name, course, and project number. Include a complete problem-solving phase for each part. Print your code and browser output. Write a conclusion section that summarizes your experience with the project and describe extra work you did for each part. Late projects will be reduced 25% of the total point value for each class period late.

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