

# Programming Logic - Beginning

152-101

## Enhanced Math Program Evaluation Form

Name \_\_\_\_\_

Score \_\_\_\_\_ / 35

Update Value \_\_\_\_\_

[Make all corrections and resubmit to earn update points](#)

☒ Update Recommended

### Enhanced Math Project

- ☐ (½ point) Appropriate project icon (can be same as window icon)
- ☐ (½ point) Window file names matches window object names (wndXxxx).

### Welcome Screen

- ☐ (½ point) window centered on screen
- ☐ (½ point) window title is appropriate
- ☐ (½ point) window includes application name
- ☐ (½ point) window appearance is professional
- ☐ (½ point) Timer included that launches application after 5 seconds
- ☐ (½ point) Button included to start application immediately
- ☐ (½ point) Button included to exit application immediately
- ☐ (½ point) Method documentation (grammatically correct) included for all methods

### window Objects

- ☐ (½ point) Appropriate window icon
- ☐ (½ point) window centered on screen
- ☐ (½ point) window title is appropriate
- ☐ (½ point) Group boxes used to group similar items
- ☐ (½ point) Group boxes are appropriately labeled
- ☐ (½ point) Textbox allows user to enter maximum number
- ☐ (½ point) Max number initialized to 10 (design or run-time)
- ☐ (½ point) Labels used to display random numbers
- ☐ (½ point) Textbox allows users to enter their answers
- ☐ (½ point) Radio buttons used to allow user to select operator
- ☐ (½ point) Check box allows user to hide integer division and modulus operators
- ☐ (½ point) Math equation displayed appropriately
- ☐ (½ point) window includes appropriate piece of clipart
- ☐ (½ point) All window objects appropriately labeled
- ☐ (½ point) window objects have professional layout
- ☐ (½ point) Tab order is appropriate
- ☐ (½ point) All window objects referenced in code are appropriately named
  
- ☐ (½ point) Button access keys are appropriate
- ☐ (½ point) Check Answer button is window Accept button
- ☐ (½ point) New Numbers button is window Cancel button

### **Class-Level Variables**

- ☐ (½ point) Current numbers stored as class-level variables (private)
- ☐ (½ point) Correct answer stored as a class-level variable (private)
- ☐ (½ point) Variable names appropriate; type int and double; appropriately described

### **Check Answer Click Event**

- ☐ (½ point) Variable defined to hold user's answer
- ☐ (½ point) Variable name is appropriate; type double; appropriately described
- ☐ (½ point) Try-Catch used to catch input errors
- ☐ (½ point) Error message appropriate
- ☐ (½ point) Variable compared to correct answer
- ☐ (½ point) Message displayed to user whether right or wrong
- ☐ (½ point) Messages are grammatically correct
- ☐ (½ point) Focus set to new numbers if answer is correct or user answer text box if answer is incorrect

### **Exit Click Event**

- ☐ (½ point) Program exits properly

### **Give Up Click Event**

- ☐ (½ point) Correct answer displayed
- ☐ (½ point) Message is grammatically correct
- ☐ (½ point) Focus set to New Numbers button

### **New Numbers Click Event**

- ☐ (½ point) Variable defined to hold maximum number
- ☐ (½ point) Variable name is appropriate; type Integer; appropriately described
- ☐ (½ point) Try-Catch used to catch input errors
- ☐ (½ point) Error message appropriate
- ☐ (½ point) Two random numbers generated
- ☐ (½ point) Random numbers limited to 0 through max
- ☐ (½ point) Random numbers transferred to labels
- ☐ (½ point) Division operators hidden/disabled when Number 2 = 0
- ☐ (½ point) Division operators shown/enabled when Number 2 <> 0
- ☐ (½ point) User's answer and message label cleared
- ☐ (½ point) All radio buttons cleared

### **IntMod Check Box Checked Changed Event**

- ☐ (½ point) Radio buttons for Integer Division and Modulus hidden/disabled based on check box status

### **window Load Event**

- ☐ (½ point) Creates a new welcome screen and shows it.
- ☐ (½ point) Hides the main window
- ☐ (½ point) If user selects exit button, application immediately ends

### **Operator Radio Button Check Changed Event**

- ☐ (1/2 point) Case statement used to determine selected operator
- ☐ (1/2 point) Correct answer to equation calculated in each case
- ☐ (1/2 point) Division answer rounded to one decimal place
- ☐ (1/2 point) Appropriate equation displayed in label in each case
- ☐ (1/2 point) Focus set to user's answer
- ☐ (+1/2 point) String variable used to store operator. Equation displayed outside of Case.
- ☐ (+1/2 point) User answer textbox disabled until first numbers generated. Enabled here.

### **Indentation**

- ☐ (1/2 point) Source code indented properly

### **window Level Documentation**

- ☐ (1/2 point) Methods alphabetized
- ☐ (1/2 point) Spacing used to make code readable
- ☐ (1/2 point) Appropriate in-line comments included
  
- ☐ (1/2 point) Each method includes a purpose description.
- ☐ (1/2 point) Purpose descriptions use complete sentences, grammatically correct, without spelling errors.
- ☐ (1/2 point) Purpose descriptions are accurate

### **Program Documentation**

- ☐ (1/2 point) Documentation module created
- ☐ (1/2 point) Documentation appearance is professional
- ☐ (1/2 point) Program name included
- ☐ (1/2 point) Student's name included
- ☐ (1/2 point) Program date included
- ☐ (1/2 point) Program's purpose uses complete sentences, is grammatically correct, without spelling errors.
- ☐ (1/2 point) Program's purpose is accurate and complete
  
- ☐ (1/2 point) windows listed alphabetically
- ☐ (1/2 point) window purpose descriptions use complete sentences, grammatically correct, without spelling errors.
- ☐ (1/2 point) window purpose descriptions are accurate and complete
  
- ☐ (1/2 point) Change log included with initial submission date
- ☐ (1/2 point) (Updates only) Updates documented in change log

## Program Design

Program design matches implementation

☐ (½ point) Pseudocode matches flowchart and program

☐ (½ point)

☐ (½ point) Flowchart matches program

☐ (½ point)

## Challenge Points

☐ (+3 points) If implemented correctly

☐ (½ point) Progress bar added to window; named appropriately

☐ (½ point) Timer included to update progress bar

☐ (½ point) Timer updates progress bar correctly

☐ (½ point) Check box allows user to enable timer

☐ (½ point) Timer starts when user selects an operator

☐ (½ point) Timer stops when user enters correct answer

☐ (½ point) When time is up, user is informed

☐ (½ point) Progress bar value reset when: check box checked, time is up, user gets correct answer, user gives up, new radio button selected