Programming Principles – 8161

Programming Task 1

Task Description

Write a visual basic program that will simulate a game that matches three graphics (pictures) and allocates a score. Your game should consist of three frames each capable of displaying a graphic out of the same set of the ten different graphics. Your code should randomly select a graphic to display in each frame.

The objective of the game will be to score as many points as possible in a given number of turns. You win 20 points when any two frames show the same graphic and 100 points when all three frames show the same graphic. You also win 5 points when any frame displays a graphic of your own choice (a wild card graphic). So if all three frames show your wild card graphic, as well as scoring 100 points for matching three graphics you will also score another 15 points ie 5 points for each wild card graphic.

The rules of the game should be displayed on the game screen form.

Each time you run the program it should start with a different set of graphics in the display frames ie the display of the graphics should be totally random.

Technology Process	Aspect Requirement	Structured Programming Design Tools Used
Investigating	- Define The Problem - Compare user interfaces that you like and don't like and explain why.	**IPO** Diagram
Devising	- Sketch a user interface form showing the visual basic objects you will use. - Show the properties you will change for each object. - Write a Solution Algorithm in pseudocode for the command button that causes the game event	- Structure Theorem (Selection control Structures) - Pseudocode - Stepwise refinement
Producing	- Code the Algorithm using a Specific Programming Language - Test the Program on the Computer - Create Executable	- Visual Basic Language - Control Structures - Syntax and logic errors - Debugging
Evaluating	- Document and Maintain the Program - Justify changes of final product compared to original design - Discuss any difficulties and how you solved the problem and what improvements would you make in your next version.	- Internal Documentation - External Documentation - User Instructions - Evaluation

Task Requirements for Submission

Use must use the **Technology Process** to design and develop your program. See the table above about how you can address the Technology Process.

Your design and development should include at least;

1. Problem definition (IPO Diagram)

2. A sketch of the proposed screen design.

3. The solution Algorithm presented in pseudocode.

4. The source code should contain **internal documentation** explaining the purpose of some of the lines of code.

5. The Visual Basic program files (ie the **.frm** and **.vbp** files) and your pictures saved in your Programming Principles folder in your Home Data. Please save these files in a folder called "**Task 1- Match Three Game**"

6. A copy of the completed program created as an executable file (ie the **.exe** file)

7. A neatly presented and printed document containing;

    a. A cover page showing the subject name, task name and your full name.

    b. A contents page showing the page numbers of your Investigation, Devising and Evaluation and user instructions.

    c. Clear and neatly presented contents.

Due Week 2 Term 2

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