

Define or describe the following:

**Decision Structure** A decision structure allows a program to perform actions only under certain conditions.

**Selection structure** decision structures are also known as selection structures as they select between choices.

**Combining Structures** You cannot use decision structures alone to create a complete program. You use a decision structure to handle any part of a program that needs to test a condition and conditionally execute an action depending on the outcome of the condition.

**Boolean Expressions** All programming languages allow you to create expressions that can be evaluated as either true or false. These are called Boolean expressions, named in honor of the English mathematician George Boole.

**Relational Operators** These are the symbols so common in math language like > greater than < less than etc. A relational operator determines whether a specific relationship exists between two values.

**== vs =** When programming in a language that uses == as the equal to operator, take care not to confuse this operator with the assignment operator, which is one = sign.

**!=** This is the relational operator that says not equal to.

**Pseudocode for IF Then** Make sure the If clause and the End If clause are aligned. Indent the conditionally executed statements that appear between the If clause and the End If clause.

**Flowchart IF Then** On a flowchart they are represented with a diamond. The if then statement goes in the middle. If true the instructions branch off and then reconnect to the code in the appropriate spot.

**Dual Alternative vs Single Alternative** A dual alternative decision structure has two possible paths of execution—one path is taken if a condition is true, and the other path is taken if the condition is false. A single alternative structure only follows one path which is what we have done in this class thus far.

**String Comparison** In addition to determining whether strings are equal or not equal, many languages allow you to determine whether one string is greater than or less than another string. This is a useful capability because programmers commonly need to design programs that sort strings in some order

**Answer the following:**

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#4.11 – 4.12

11. z is not less than a

12.

New York

Boston

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#1,2, 3

1. c 2. b 3. b

P 166 – 167 #4 Magic Dates

// First we declare all of our global variables

Declare integer Month, Day, and Year

// Prompt the user to enter the month, day, and year

Display "For the following inputs use the xx/xx/xx date format, but only one integer if the day month or year is less than 10"

Display "Enter the month that is inquired"

Input Month

Display "Enter the Day that is inquired"

Input Day

Display "Enter the Year that is inquired"

Input Year

//Calculate whether or not it is a magic date

If Day==Year/Month

Display "This is a magic Date"

Else

Display "I am sorry this is not a Magic Date please try again"

End

