ITMD 411

Welcome to Week 3

Logic:

Control Structures

=>Sequence (step by step but no return)

=>Selection (making a decision)

=>Repetition (continue a process)

=>Sequence (step by step but no return)

Example: Exponential Modeling

Goal: receive two ordered pairs of values and fit

them to an exponential model.

Input: (x1= 1, y1= 5) and (x2= 5, y2= 8)

example is x represents advertising spent on a new

cellular telephone and then y represents the amount of sales that are obtained after we advertise.

Model: y = N0 \* e ^ (k \* x)

players:

y is the dependent variable

N0 is the inital population

e is the base number 2.718282

k is the exponential growth or decay constant

x is the independent variable

Wolframalpha.com

exponential fit (1,5), (5, 8)

y = 4.4457 \* e^(0.117501 \* x)

Test the model: with x = 3

y = 4.4457 \* 2.718282 ^(0.117501\*3)

y ~ 6.324

What does this mean?

If we expend $300,000 in advertising we will have

a profit level of about 6.3 million dollars.

Syntax:

If Blocks, Case Statements, Conditional Expression

Operators

Chapter 3 PowerPoint Slides

Labs:

Lab 2: Depreciation

Lab 3: Intro to GUI Apps ( Hail Caesar )

Some Crytographic Systems

Lab 2 Specs:

Input: Asset Cost and Asset Life, Type, Salvage Value

Process: Yearly Depreciation (sum of years digits)

5 year property

1+2+3+4+5 = 15

Depreciation Factors:

Year 1 5/15

Year 2 4/15

Year 3 3/15

Year 4 2/15

Year 5 1/15

We compute depreciation based on these

factors

Year 1 (5/15) \* $60,000 = $20,000

Year 2 (4/15) \* $60,000 = $16,000

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Display the Book Value

Current Book Value = Prior Year Book Value -

Current Year Depreciation

$60,000 - $20,000 = $40,000

Special Topics and Applications

Exponential Modeling

Lab Grading Rubric:

Professionally Submitted Assignment

Points deducted based on:

Incorrect Output: ( value or format )

Incorrect or Improperly Formatted Syntax:

Screen Snapshots not Available

(Alt + Printscreen) = > Ctrl + v

Adherence to the Assignment:

Code not Operating Properly:

No name within the heading of the source code: