**Tutorial 3 Question 7**

Planning document

**Question**

1. A company that offers a copying service charges the following:

The first 500 copies cost 15 cents per copy

The next 500 copies cost 12 cents per copy

Any extra copies cost 9 cents per copy

Write a program that prompts the user to enter the number of copies required, and then

prints a statement for a client with the amount that is due.

**Input**

|  |  |  |
| --- | --- | --- |
| *variableName* | *type* | *availability* |
| numCopies | Number (integer) | keyboard |

**Constants**

firstLimit 🡨 500

secondLimit 🡨 1000

firstPrice 🡨 0.15

secondPrice 🡨 0.12

thirdPrice 🡨 0.09

**Output**

|  |  |  |
| --- | --- | --- |
| *variableName* | *format* | *where* |
| finalPrice | Currency 2 dp | screen |

**Processing**

If numCopies <= firstLimit

finalPrice 🡨 numCopies \* firstPrice

if firstLimit < numCopies <= secondLimit

difference 🡨 numCopies - firstLimit

finalPrice 🡨 firstLimit \* firstPrice + difference \* secondPrice

if numCopies > secondLimit

difference 🡨 numCopies - secondLimit

costOne 🡨 firstLimit \* firstPrice

costTwo 🡨(secondLimit - firstLimit) \* secondPrice

finalPrice 🡨 difference \* thirdPrice + costOne + costTwo

**alternative processing using nested if-statments**

If numCopies <= firstLimit

finalPrice 🡨 numCopies \* firstPrice

else

if numCopies <= secondLimit

difference 🡨 numCopies - firstLimit

finalPrice 🡨 firstLimit \* firstPrice + difference \* secondPrice

else

difference 🡨 numCopies - secondLimit

costOne 🡨 firstLimit \* firstPrice

costTwo 🡨(secondLimit - firstLimit) \* secondPrice

finalPrice 🡨 difference \* thirdPrice + costOne + costTwo

**TestData**

*Add columns for the number of variables from above analysis*

*Create expected data and calculate expected results*

NOTE: You need to test for each interval, and for each boundary

**Pseudocode**

Enter the data

Process the data - calculations

Display the results

**Testing plan**

Version1 - enter the data and test code with test data. Document the process

Version 2 - add code for processing and test code with test data. Document the process (*Note need to test for each interval*)

Version 3 - add code to display the results and test code with test data. Document the process

Version 4 - improve display of results if necessary