N4/5 Computing Science – Software Design and Development

Due Date: Thu 8th Dec

Name

Homework 11

Read the Python program below and answer the questions that follow.

warning = " "

pollen\_count = int(raw\_input("Enter the pollen count score for Inverness today per cubic metre--> "))

while not (pollen\_count >=10 and pollen\_count <=500):

print "Invalid Pollen Count!"

pollen\_count = int(raw\_input("Pollen Count 10 - 500. Re-enter the pollen count score for Inverness today--> "))

if pollen\_count > 49:

warning = "High Pollen Warning"

elif pollen\_count >19:

warning = "Medium Pollen Warning"

else:

warning = "Low Pollen Warning"

print

print "\*\*\* Inverness Hayfever Daily Information \*\*\*"

print "Pollen Count: ", pollen\_count

print warning

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1. Name the type of **algorithm** Lines 3 – 5 and describe its specific purpose in this program.

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1. Explain clearly the condition used in Line 3 and what the different outcomes can be for the loop.

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1. How are the data pollen\_count and warning “stored” for the processor’s needs?

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1. Explain the full construct Lines 6 – 11.

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1. What happens in the rest of the construct if the condition in Line 6 is true?

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1. Complete the test data table below, think about the loop and the decision paths conditions.

|  |  |  |
| --- | --- | --- |
| Test Data | Test Data Type | Output |
| 0 | Normal | Invalid, re-enter  Medium Warning |
| 375 |  |  |
| 50 |  |  |
|  | Extreme (while loop) | Low Warning |
|  | Extreme (while loop) | High Warning |
|  | Exception  Extreme (if elsif) | Low Warning |

1. Re-write the Input Validation Lines 2 – 5 in pseudococde as a REPEAT … UNTIL structure.