Q.1 Roy is a meteorologist responsible for producing weather maps for the cities of California. He has to design weather map comparing data from other whether stations and they show different data about the weather in California. So write the possible test cases of above scenario?

Q2. Give at least three examples in which black-box testing might give the impression that “everything’s OK”, while white-box tests might uncover an error?

Solution:

Example 1:

For login window, if you provide username and password and click "Cancel", it turns to the login window again but database still maintains the record and saves it.  
In this case, black box testing will verify that "Cancel" button working properly and login window turns up again. But only white box testing would be able to make sure whether the cancelled data has really been discarded or not

Example 2:

Login Counter   
Black Box testing may not be able to overwhelm a certain data type value say Int 65326 but if developer is keeping track of login counters the integer value may be overwhelmed soon and there is a possibility of error. Looping in white box would find the issue.

Example 3:

MS Calculator sqrt(4) = 2, sqrt(2) = 1.412........ again reverse the order i.e sqr(1.412....) = 2 , sqr(2) = 4  
Functionally this is right and even the display will show you 4.  
Now just subtract 4 from the result and you get a precision error. This would have been easily detected by white box testing but not by black box testing.

Q3. You have been asked to test a method called ‘WhiteSpaceCon’ in a ‘Paragraph’ object that, within the paragraph, replaces sequences of blank characters with a single blank character. Identify testing partitions for this example and derive a set of tests for the ‘WhiteSpaceCon’ method?

Solution:

Testing partitions for the above scenario are:

* Sentences with single blank characters.
* Sentences with sequences of blank characters in the middle of the sentence.
* Sentences with sequences of blank characters at the beginning of the sentence.
* Sentences with sequences of blank characters at the end of the sentence.

Set of tests for the ‘WhiteSpaceCon’ Method:

* Testing can only show the presence of errors, not their absence. (only single blank characters)
* Testing can only show the presence of errors, not their absence. (several blank spaces in the sentence)
* Testing can only show the presence of errors, not their absence. (2 blanks at the beginning)
* Testing can only show the presence of errors, not their absence. (2 blanks at the end)
* Testing can only show the presence of errors, not their absence. (several blanks at the beginning)
* Testing can only show the presence of errors, not their absence. (several blanks at the end)

Q 4. A Web engineering team has built an e-commerce WebApp that contains 145 individual pages. Of these pages, 65 are dynamic; that is, they are internally generated based on end user input. What is the customization index for this application?

Solution:

Where,

= Number of dynamic web pages.

= Number of static web pages.

+ = Total number of pages

Here,

= 65

+ = 145

Therefore,

= 0.448

So, The customization index for the above application is 0.448

Q5. Assume that the size of an organic type software product has been estimated to be 3 32,000 lines of source code. Assume that the average salary of software engineers be Rs 15,000/- per month. Determine the effort required to develop the software product and the nominal development time?

Solution:

From the basic COCOMO estimation formula for organic software we know that:

Effort

KLOC =LOC/1000 = 32,000/1000 = 32

Effort = 2.4 х (32)1.05 = 91 PM

Nominal Development Time

Nominal Development Time = 14 months

Therefore,

The effort required to develop the software product is 91PM and the nominal development time is 14 months.