Professional Issues in IT EXAM

Issue the technology that is used is unknown to the team

PART A:

1a)

1. It was the waterfall model because they did smth and only in the end they did testing. Also the software team analyzed the requeirments and then started to write code. (because it goes phase by phase) The main drawbacks are: you have to have clear understanding of the requirements. Also the x company came and wanted smth else which means the design of the databse was never checked with the company. So that means there is no interaction with the 2 companies.
2. The model that we would propose is Incremental (interative model in general). Because we don’t have the “Big Picture here” we will build slowly. Also complained they used very small fonds which indicates prototyping model. We will use an incremental model because it tells us with the opportunity to deal with what its known to us and push with whatever we don’t know and also it gives us opportunity to have customer involvement with that model. And on top of that we will use prototyping.

1b)

1. Identiy external inputs otuputs inquiries and data inflow and data address and identify what are the files and then based on the tables we assign the fpa points we add them all up.

2a)

1. Testing , Familiarity with the Technology , Bad Schedule Duration Estimation (too optimistic ) , Re-adjustment needed to happen so the extension was over optimistic , They don’t have familiarity with Readers (hardware to software) and also the customers imposed the particular hardware. Also the decision to work on C++ was decided by the management. Also the management threatened and weakened the stuff in order to work overtime. Also you are not in touch with the Customer and then a problem appear with the names and Surnames.
2. Find a way to do it 😊

2b) Set the standards and monitor them . (See notes) Also train the stuff.

2c) DRE: the formula will be already there given to us the other stuff found it on notes

PART B

3.)

a)

Cyclomatic model smth like that.

Ai) photo on phone

Index and found is what controls the code

Then we go to while and then to the If statement(inside the while). After the IF we branch after the graph we need to do some calculations as we said in class.

b) the possibilities are we have an id and a personal password.

Id -> valid PP-> valid

Id-> valid PP->invalid

Id->invalid PP ->Invalid

4.)

1. The 0 is supposed to be < 10
2. Statement coverage: The objective is we need to check all the possibilities to achieve execution of the statements. We need to test what are the values that the program takes. And each statements is executed at least once. Values for ( a>0&& b<10) or (b>0 && b<=10) one needs to be true because we have an or statement. (First photo in phone)
3. Decision coverage: They all act as one (our statement). So the values we need to have is one of them needs to be true
4. Condition Coverage: We have 4 conditions (a<0, b<10, b>0, b<=10) we need to test what happens around 0 (a>0), b<10 , b<=10 and b>0

If a =5 and b =5 then True

If a= -5 and b = 5 then True

if a = -5 and b= -5 then False

1. Modified Condition/Decision Coverage:

A = 5 and B = 5

T && T || T && T -> T

A= -5 and b= 5

F&&T || T&& T -> T

A=-5 b= 15

F&&F ||T &&F -> F

A= -5 b = 9

F&&T || T&&T -> T

We need only the first three ones not the last one. Just to satisfy all the conditions that we have not much more not less.

c) **1. Scope and Focus**

* **ISO 9000**: Focuses on ensuring quality management practices across a wide range of industries. It provides a **generic framework** for establishing a quality management system (QMS) applicable to any organization, emphasizing customer satisfaction and process consistency.
* **CMM**: Specifically tailored to **software development and process improvement**. It evaluates the **maturity** of processes within an organization and provides a roadmap for improving those processes systematically.

**2. Certification vs. Maturity Assessment**

* **ISO 9000**: Aims at certification. Organizations implement ISO-compliant processes to achieve formal certification, demonstrating adherence to international quality standards.
* **CMM**: Focuses on assessing and improving organizational process **maturity levels**. The goal is not certification but rather guiding the organization toward process improvement and optimized performance.

Questions:

In the Function Point analysis exercise will you give us the complexity adjustment value and the complexity of the counts or we will have to find everything ?