TD 2 - Test- "Analyse de code 2" LO22

Exercice 1

Le programme suivant fournit pour un nombre x sa racine carrée entière.

```
Programme Exercice1

Var     x,y     : Integer ;
        B       : boolean ;
Begin
        b := False;
        repeat
                Writeln('donnez un entier x') ;
                Readln(x) ;
                If x > 0
                        Then y = abs(sqrt(x))
                End ;
                Writeln('racine de x =',y) ;
                Writeln('voulez-vous continuer (O,N)?') ;
                Readln(C) ;
                If C='O'
                        then b := True
                        else b := false
                End;
        Until b ;
End.
```

Ce programme contient une faute, proposer si possible 3 exemples d'exécution :

1. une exécution sans erreur ni défaillance,
2. une exécution avec erreur et sans défaillance,
3. une exécution avec erreur et avec défaillance.

Exercice 2

Soit la fonction « foo » et la faute qui est signalée.

```
Function foo( x: in boolean, t: in integer): boolean;
Var     r       : integer;
        Rep     : boolean;
Begin
        If x = true
                Then r := t;     /* Erreur : on voulait t +10 */
                Else r := t + 5;
        End if;
        If r < 20
                Then rep := true
                Else rep:= false;
        End if;
        Return rep;
End foo
```

Proposer si possible 3 exemples d'exécution:

1. une exécution sans erreur ni défaillance,
2. une exécution avec erreur et sans défaillance,
3. une exécution avec erreur et avec défaillance.

Exercice 3

Soit le fragment de code suivant

```
1: x = input();
2: x = x + 5;
3:
4: if (x > 0)
5:     y = input();
6: else
7:     y = 10;
8:
9: if (x > 2)
```

```
10:     if (y == 2789)
11:         throw new Exception("Error")
```

Réaliser une exécution symbolique de ce fragment de code. Conclure par rapport à la validité de ce programme.

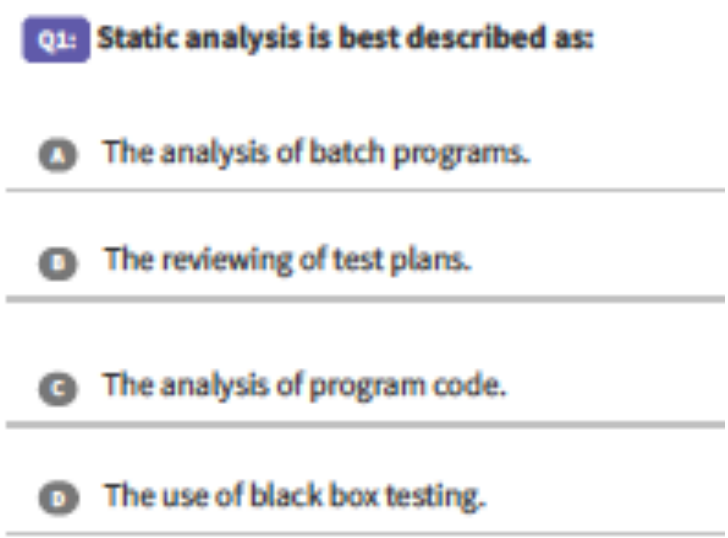
Exercice 4

Soit le fragment de code suivant

```
a := a * a;
x := a + b;
if x = 0 then z := 0;
else z := 1;
y=b-a ;
if y>0 then x=y+x ;
else x=y-x ;
print z,x ;
```

Réaliser une exécution symbolique de ce fragment de code. Conclure par rapport à la validité de ce programme.

Exercice 5 (Certification ISTQB) :



Q2: Which of the following statements about reviews is true?

A Reviews cannot be performed on user requirements specifications.

B Reviews are the least effective way of testing code.

C Reviews are unlikely to find faults in test plans.

D Reviews should be performed on specifications, code, and test plans.

Q3: Why are static testing and dynamic testing described as complementary?

A Because they share the aim of identifying defects and find the same types of defect.

B Because they have different aims and differ in the types of defect they find.

C Because they have different aims but find the same types of defect.

D Because they share the aim of identifying defects but differ in the types of defect they find.

Q4: 'Entry criteria' should address questions such as
I. Are the necessary documentation, design and requirements information available that will allow testers to operate the system and judge correct behaviour.
II. Is the test environment-lab, hardware, software and system administration support ready?
III. Those conditions and situations that must prevail in the testing process to allow testing to continue effectively and efficiently.
IV. Are the supporting utilities, accessories and prerequisites available in forms that testers can use

A I, II and IV

B I, II and III

C I, II, III and IV

D II, III and IV.

Q5: Static Analysis

A. Same as static testing

B. Done by the developers

C. Both A. and B

D. None of the above

Q6: In formal review, Rework: fixing defects found typically done by _____

A. Moderator

B. Author

C. Reviewer

D. Recorder

Q7: Which expression best matches the following characteristics or review processes:

1. Led by author
2. Undocumented
3. No management participation
4. Led by a trained moderator or leader
5. Uses entry exit criteria

s) Inspection
t) Peer review
u) Informal review
v) Walkthrough

- A) s = 4, t = 3, u = 2 and 5, v = 1
- B) s = 4 and 5, t = 3, u = 2, v = 1
- C) s = 1 and 5, t = 3, u = 2, v = 4
- D) s = 5, t = 4, u = 3, v = 1 and 2
- E) s = 4 and 5, t = 1, u = 2, v = 3

Q8: Which of the following statements is NOT true:

- A) Inspection is the most formal review process
- B) Inspections should be led by a trained leader
- C) Managers can perform inspections on management documents
- D) Inspection is appropriate even when there are no written documents
- E) Inspection compares documents with predecessor (source) documents

Q9: What can static analysis NOT find?

A. The use of a variable before it has been defined

B. Unreachable ("dead") code

C. Whether the value stored in a variable is correct

D. The re-definition of a variable before it has been used

E. Array bound violations

Q10: Which rule should not be followed for reviews

A. Defects and issues are identified and corrected

B. The product is reviewed not the producer

C. All members of the reviewing team are responsible for the result of the review

D. Each review has a clear predefined objective