Course No: ESGD4117
Course Title: Object Oriented Analysis and Design
Date: 21 / 11 / 2011
No. of Questions: 2
Time: 1 hr
Using Calculator (No)

University of Palestine

Mid-Term Exam
First term 2011/2012
Total Grade: 20

Instructor: Eng. Tasneem Darwish
Student No.: _____
Student Name: _____
College Name: Eng. College
Dep. / Specialist: Software Engineering
Using Dictionary (No)

First Question (8/20)

Q1: choose the right answer or answers:

1.1) Which of the following statements are true? Choose all options that apply.
(a) Most superclasses are abstract.
(b) Inheritance is preferable to composition.
(c) Most superclasses are concrete.
(d) Composition is preferable to inheritance.

1.2) What is an 'abstract' class? Choose only one option.
(a) An object.
(b) A class with no methods.
(c) A class with no concrete subclasses.
(d) A class with at least one undefined message.
(e) An interface.

1.3) In a UML diagram, how are objects distinguished from classes?
(a) Object labels are shown in italics.
(b) Class labels have a box drawn around them.
(c) Object labels are underlined.

1.4) Which of the following terms best describes the case where a Stack class is implemented using an internal instance of List?
(a) Association.
(b) Specialization.
(c) Genericity.
(d) Composition.
(e) Singularity.

1.5) What does the term 'polymorphism' refer to?
(a) The ability of a variable to point at different classes of object at different times.
(b) All object-oriented programming languages are different.
(c) All object-oriented methodologies use a different notation.

1.6) Which of the following UML artifacts are used to show the distribution of processes and resources in a system?
(a) Interaction diagrams.
(b) Sequence diagrams.
(c) Deployment diagrams.
(d) Communication diagrams.
(e) State machine diagrams.
(f) Class diagrams.
(g) Glossaries.

1.7) In the figure below, what do Diagrams 1 and 2 illustrate?
(a) 1: An aggregation, 2: A composition.
(b) 1: An attribute, 2: An aggregation.
(c) 1: An aggregation, 2: An attribute.
(d) 1: An attribute, 2: A composition.
(e) 1: A composition, 2: An attribute.

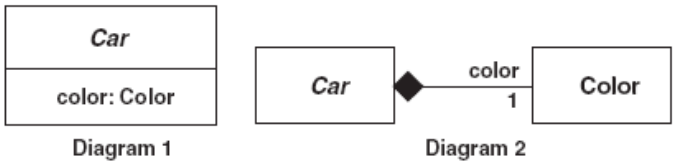
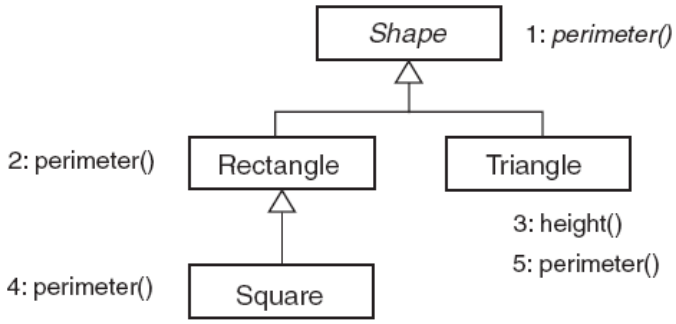


Diagram 1 Diagram 2

1.8) With reference to the figure below which methods correspond to the following message sends (in the order given)? Choose only one option.
tr.height();
sh.perimeter();
sq.height();
sq.perimeter();
sh.height();
tr.perimeter();




```
Shape sh;
Triangle tr = new Triangle();
Square sq = new Square();
sh = tr;
```

(a) 3, 1, none (error), 4, none (error), 5
(b) 3, 5, none (error), 4, 3, 5
(c) 3, 1, none (error), 4, 3, 5
(d) 3, 5, none (error), 4, none (error), 5

Second Question (12/20)

Q2 A: What is the difference between the iterative and the spiral methodologies?

Q2 B: in activity diagrams what are the forks and joins used for??

Q2 C: what are the three rules for postconditions and precondition when there is a specialization between usecases??

Q2 D: what is the difference between association and aggregation?

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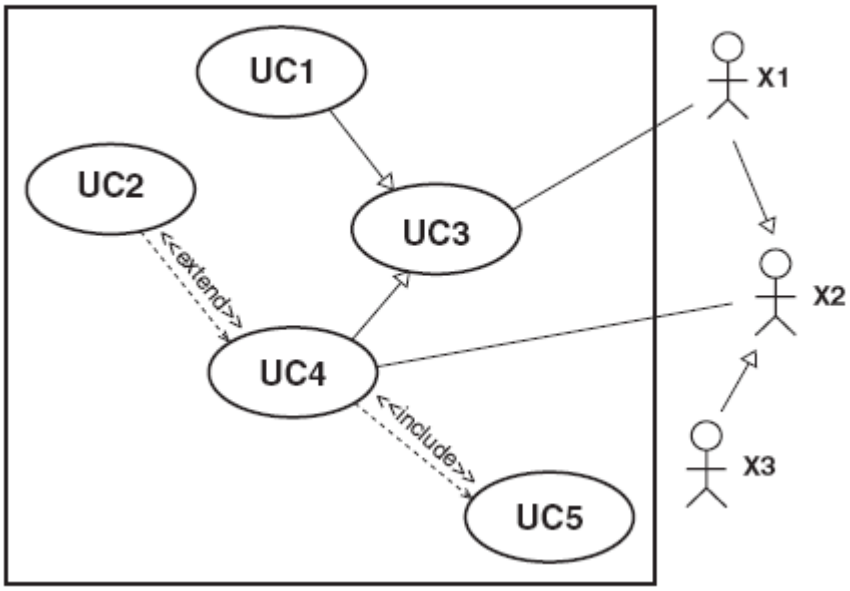
Q2 E: With reference to figure below,

What are X1, X2 and X3?

What is the relation between X1 and X2??

What is the difference between include and extend???



Good Luck