

Question 1

[4 marks]

A city is a place where people live in houses. Houses come in many different styles and colors. Some houses have brick exteriors, while others have vinyl siding. Some people go to work in places such as businesses, schools and hospitals. Young people tend to go to school, while older people tend to play golf on golfcourses, or feed ducks in ponds. Ponds are often found in parks. People move around the city driving cars or riding busses on roadways, or riding bicycles on bikepaths. People enter and leave the city by car, bus, train or airplane. Cars are often owned by individuals. Some busses are owned by the city. Airplanes, trains and some busses are owned by private companies.

Suppose you are modelling a city for the purposes of developing an evacuation plan for it. In the table below, give two objects you think should be included in your model, along with either a property of a capability of each, relevant to solving the given problem.

Point assignment (per answer): 1 point for object, 1 point for property/capability

Grading: full points for something reasonable, i.e. object is in domain, property/capability suitable for object.

Object	Property or Capability
1) house	people living in the house
2) car	owned by person

Question 2

[4 marks]

In class we talked about the conceptual model and the executable model. We have also talked about several languages, such as English, the Unified Modeling Language (UML), high-level programming languages (such as Java), and low-level programming languages (such as machine language).

Of the languages listed, which one do we use to describe the *conceptual model*?

Answer: "UML" or "Unified Modeling Language" (2 points)

Of the languages listed, which one do we use to describe the *executable model*?

Answer: "Java" or "high-level programming language" (2 points)

Question 3

[5 marks]

Suppose that the class `WestNile` is defined in the `virus` package. Assuming that the class defines a constructor that takes no arguments, give a Java expression that creates an instance of this class.

Answer: `new virus.WestNile()`

Point assignment: 5 points total

1 point for new

1 point for package

1 point for "."

1 point for constructor name

1 point for argument list "()"

SOLUTION #1 — 2.5%

Name (print, surname first): _____

Monday, September 10, 2007 [version 1 of 4]

Signature: _____

15 minutes

Person #: _____

 B1 (T@4) B2 (F@10) B3 (R@10) B4 (F@2)

This assessment has 2 pages. Check that you have a complete paper.

Each candidate should be prepared to produce, upon request, his or her SUNY/UB card.

This examination has 3 questions. Answer all 3 questions.

READ AND OBSERVE THE FOLLOWING RULES:

- ▷ Write the following, in ink, in the space provided above,
 - ◊ your name, surname first,
 - ◊ your usual signature, and
 - ◊ your UB person number,
- ▷ All of your writing must be handed in. This booklet must not be torn or mutilated in any way, and must not be taken from the examination room.
- ▷ Show all of your work in arriving at an answer, unless instructed otherwise. Partial credit will be awarded as appropriate.
- ▷ Candidates are not permitted to ask questions of the invigilators, except in cases of supposed errors or ambiguities in examination questions.
- ▷ **CAUTION** — Candidates guilty of any of the following, or similar, dishonest practices shall be immediately dismissed from the examination and shall be liable to disciplinary action.
 - ◊ Making use of any books, papers or memoranda, calculators or computers, audio or visual cassette players, or other memory aid devices, other than those *explicitly authorised* by the examiners.
 - ◊ Speaking or communicating with other candidates.
 - ◊ Purposely exposing written papers to the view of other candidates. The plea of accident or forgetfulness shall not be received.

Do not write below this line!

Question	Points
1	/4
2	/4
3	/5
TOTAL	/13