**BLG 252E**

**Object Oriented Programming**

2011 Spring

**Homework 3**

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**1-Introduction**

The purpose of this homework, giving a solution for Japanese IQ Test by object oriented programming aproach. This is a game to pass some people across the river with some constraints. The goal is to pass all 8 people (Father, Mother, Son, Son, Daughter, Daughter, Thief and Policeman) across the river by using the only available raft with capacity of carrying 2 people.

The following rules apply:

1) Only 2 people can be on the raft at a time.

2) The father cannot stay with any daughters without mother’s presence.

3) The mother cannot stay with any sons without father’s presence.

4)The thief cannot stay with any of family member without Police’s presence.

5)Only father, mother and policeman can operate the raft.

**2-Development and Operating Systems**

**MS Windows**

The Codeblocks environment has been used to write the source code, compile and run the program.

**Unix**

The Source code has been also copied to Unix, then compiled and tested with the g++ compiler. The following is the commands used:

To compile: g++ main.cpp Game.h Game.cpp Raft.h Raft.cpp Array.h Person.h Person.cpp –o out

To Run: ./out

**3-Class Diagram**





In this program stl libraries did not use. In this work, a template array is designed and implement.



**4-Conclusion**

In this homework, how to a template class, container designed and how user designed classes are implement it is learned. Inheritance and Poliymorphism are learned. It is learned that what is UML diagram.