

Quiz 5, CSCI 150, Fall 2003

Name: _____

1. [14 pts] Suppose we had in our library a Predictor class with the following methods.

```
Predictor()
    (Constructor method) Constructs a "predictor," initially with no data learned.

void learn(int data, int value)
    Tells this predictor a value corresponding to a piece of data.

int predict(int data)
    Returns the predictor's current prediction for a piece of data. (The prediction is based on the data it has been given thus far.)
```

```
import csbsju.cs150.*;

public class GetPrediction {
    public static void run() {
        IOWindow io = new IOWindow();
```

At right, complete the program so that it asks the user for values associated with numbers 1, 2, and 3, and then it prints the prediction a Predictor gives for 4 based on these values. *Your program must use Predictor to obtain this prediction.*

```
Value for 1? 1
Value for 2? 4
Value for 3? 9
Prediction for 4: 16
```

(The input and output need not be identical. What's important is that it reads the first three values and then outputs the fourth. In this case, the values all happen to be the square of the number.)

```
}
}
```

2. [8 pts] The text describes three purposes of the operating system, among them, "The operating system abstracts computer resources." Explain what this means, with an example.

3. [8 pts] Describe the Turing Test and why Turing proposed it (i.e., its purpose).

Solutions, Quiz 5, CSCI 150, Fall 2003

Statistics

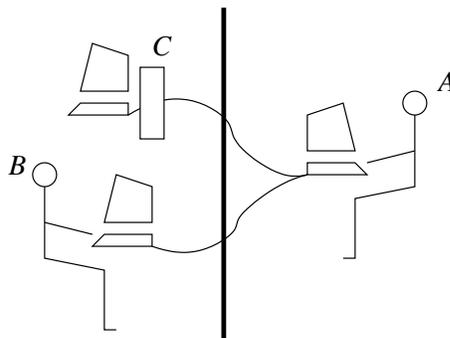
mean	23.826 (548.000/23)
stddev	6.780
median	24.000
midrange	21.000-28.500
#1.	8.78 / 14
#2.	2.96 / 8
#3.	6.35 / 8

+ 6-point bonus

```
1. import csbsju.cs150.*;

public class GetPrediction {
    public static void run() {
        IOWindow io = new IOWindow();
        Predictor p = new Predictor();
        int num = 1;
        while(num <= 3) {
            io.print("Value for " + num + "? ");
            int value = io.readInt();
            p.learn(num, value);
            num++;
        }
        int prediction = p.predict(4);
        io.println("Prediction for 4: " + prediction);
    }
}
```

2. Computer resources tend to have complex interfaces, which are difficult to use. The operating system creates a simpler interface, and its programs use this interface instead. When a program uses this simpler interface, the operating system translates the request to the proper commands for the interface. For example, a computer display knows nothing about windows, but it is a convenient concept for programs to use. A program might tell the operating system to create a window, and the operating system would tell the display to draw each individual pixel within that window's rectangle white.
3. Turing proposed that a person and a computer hide behind a screen connected via a communication link to a human tester. The tester poses questions to each and tries to distinguish which is the human. If the tester can't reliably determine which is the human, the computer has "passed" the test.



The purpose of Turing's test is to be a specific, meaningful goal toward which artificial intelligence researchers can strive.