

[**Closed book and notes. You may use one side of an 8.5 × 11 inch sheet of paper that you personally prepared.**] Show all of your work clearly in the space provided or on the additional page at the end of the exam. Be sure to **read each problem carefully**. Note that the exam is double sided. Due to time constraints, you are not required to document your source code.

1. (20 points) Consider the following code:

```
String in = JOptionPane.showInputDialog(null, "Enter_stuff");
try {
    if(in.length() > 0 && in!=null) {
        System.out.println("Stuff!");
        System.out.println(Integer.parseInt(in));
    } else {
        System.out.println("Where's_my_stuff?");
    }
} catch(NullPointerException e) {
    System.out.println("null's_make_me_sad");
} catch(NumberFormatException e) {
    System.out.println("Hint:_integers_are_stuff");
}
System.out.println("Done");
```

Determine the output if the user:

(a) enters 2 and clicks “OK”

(b) enters friendly and clicks “OK”

(c) clicks “OK” without entering anything

(d) clicks “Cancel”

2. (15 points) Consider the following two classes:

```
public class A
{
    public A()
    {
        System.out.println("A: ctr");
    }

    public void method1()
    {
        System.out.println("A: m1");
    }

    public void method2()
    {
        System.out.println("A: m2");
    }
}

public class B extends A
{
    public B()
    {
        super();
        System.out.println("B: ctr");
    }

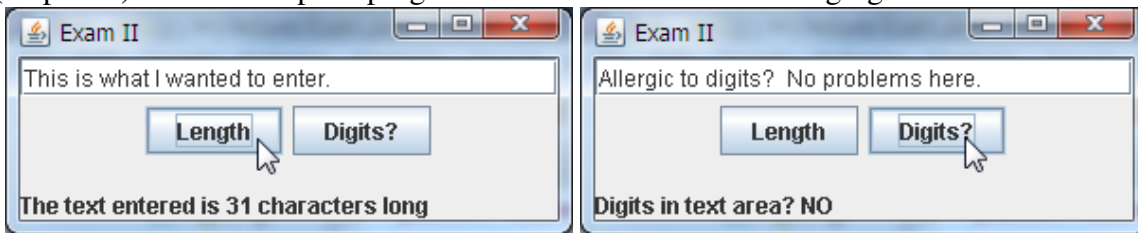
    public void method1()
    {
        System.out.println("B: m1");
    }
}
```

In the following program, cross out any line(s) of code that will produce a compiler error. For the remaining lines, indicate what will be displayed.

```
public static void main(String[] args)
{
    A obj1;
    B obj2;
    Object obj3;
    obj1 = new A();
    obj1.method2();
    obj2 = new B();
    obj2.method2();
    obj3 = new A();
    obj3.method1();
    obj1 = new B();
    obj1.method1();
}
```

3. (10 points) Explain where polymorphism has been used in the solution to a lab assignment this quarter.

4. (55 points) Write a complete program that looks like the following figures:



The window, titled “Exam II,” is 300 pixels wide and 120 pixel high. When the “Length” button is clicked the label at the bottom is changed to: “The text entered is XX characters long” where XX is the actual number of characters in the text field at the top. When the “Digits?” button is clicked the label at the bottom is changed to: “Digits in text area? NO” if no digits are present in the text field or “Digits in text area? YES” if at least one digit is present in the text. You do not need to include `import` statements or document your code. Place your answer on the back of this page and additional pages, if needed.



Place answer to 4. here: