

I. Show the memory and output of the following partial Java programs.

1) **public static void** main(String[ ] args)  
 {  
   **int** x;  
   AClass anObject = **new** AClass( );  
   x = anObject.ex1(1);  
   System.out.println(x);  
 }

**Memory**

x  
6

**public int** ex1(**int** a)  
 {  
   **int** answer;  
   answer = a + 5;  
   **return** answer;  
   System.out.println("Bye");  
 }

a    answer  
1    6

1) (1.5 pts) **Output**

6  
Bye

2) **public static void** main(String[ ] args)  
 {  
   AClass anObject = **new** AClass( );  
   System.out.println(anObject.ex2(4, anObject.ex2(2,3)))  
 }  
**public int** ex2(**int** x, **int** y)  
 {  
   **return** x\*y;  
 }

**Memory**

x    y  
2    3  
4    6

2) (1.5 pts) **Output**

24

OVER

```
3) public static void main(String[ ] args)
{
    AClass anObject = new AClass( );
    float z;
    z = anObject.ex3(2.5);
    System.out.println(z);
    System.out.println("Hey");

    public float ex3(float x)
    {
        System.out.println("Hi");
        x = x + 1.0;
        x = ex3b(x);
        return x;
    }

    public float ex3b(float y)
    {
        System.out.println("Hello");
        y = y + 2.0;
        return y;
    }
}
```

**Memory**

$\underline{z}$   
5.5

$\underline{x}$   
3.5

$\underline{y}$   
5.5

3) (2 pts) **Output**

Hi  
Hello  
5.5  
Hey

II. Answer the following given the partial class definition code:

```
public class MyClass
{
    public MyClass (int newInfo, char moreInfo)
    {
        .
    }
    public MyClass ( )
    {
        .
    }
    public void doSomething( )
    {
        .
    }
    private int info;
    private char moreInfo;
}
```

Write whether the following are *legal* or *illegal* constructor call statements in the main( ) method.  
(1 pt each)

- |   |                   |
|---|-------------------|
| 1) MyClass anObject = <b>new</b> MyClass(10,'R');               | 1) <u>legal</u>   |
| 2) MyClass anotherObject = <b>new</b> MyClass( );               | 2) <u>legal</u>   |
| 3) MyClass yetAnotherObject = <b>new</b> MyClass;               | 3) <u>illegal</u> |
| 4) MyClass( );  | 4) <u>legal</u>   |
| 5) MyClass stillAnotherObject = <b>new</b> MyClass(10);         | 5) <u>legal</u>   |
| 6) MyClass yetStillAnotherObject = <b>new</b> MyClass('G', 10); | 6) <u>illegal</u> |
| 7) anObject.MyClass(10,'B');                                    | 7) <u>legal</u>   |
| 8) anObject.MyClass( );   | 8) <u>legal</u>   |
| 9) MyClass(10,'r');   | 9) <u>illegal</u> |

## Worksheet 5 More Classes

1 of 2

Pts: 15

Name \_\_\_\_\_

class hour \_\_\_\_\_

I. Answer the following given the partial class definition code:

```
public class Car
{
    public void price(double newCost)
    {
        ...
    }
    public void profit(double newProfit)
    {
        ...
    }
    public double inputPrice( )
    {
        this.inputProfit( );
        ...;
    }
    private void inputProfit( )    //note the private modifier
    {
        ...
    }
    private double cost;
    private float profit;
}
```

If the main( ) method contains the following instantiations:

Car porsche = **new** Car( ); Car viper = **new** Car( );

and the program initializes all member variables to some value then write whether the following are *legal* or *illegal* statements in the main( ) method. (1 pt each)

- |                                      |                   |
|--------------------------------------|-------------------|
| 1) porsche.cost = 50 000.99;         | 1) <u>illegal</u> |
| 2) viper.cost(40000.98);             | 2) <u>illegal</u> |
| 3) <b>double</b> aCost, aProfit;     | 3) <u>legal</u>   |
| 4) aCost = viper.inputPrice( );      | 4) <u>legal</u>   |
| 5) aProfit = viper.inputProfit( );   | 5) <u>legal</u>   |
| 6) aProfit = porsche.inputProfit( ); | 6) <u>legal</u>   |

OVER