

Review Problems #1-20

Show the output of the following code segments. If an error occurs, print "error" & explain.

#1
String bigNum = "31415";
int littleNum = 45;
System.out.println(bigNum + littleNum);

#2
String otherNum = "23";
String otherOtherNum = "32";
String combo = otherNum + otherOtherNum;
String tiny = combo.substring(1, 2);
System.out.println(tiny);

#3
int a = 9, b = 6.34;
double sum = a + b;
System.out.println(sum);

#4
int divA = 19, divB = 4;
double quot = divA / divB;
System.out.println(quot);

#5
String bestName = "phillies";
int position = bestName.indexOf("m");
int quot = position / 4;
System.out.println(quot);

#6
int numA = 345, numb = 346;
System.out.println(numb - numA);

#7
String fullName = "Sally Brown";
String firstName = fullName.substring(6);
System.out.println(firstName);

#8
String number = "5.5";
double myDouble = Double.parseDouble(number);
double total = myDouble + "6.6";
System.out.println(total);

#9
int num1 = 6, num2 = 12;
System.out.println(num1 / num2);

#10
String answer = "true";
int pos = answer.indexOf("u");
System.out.println(answer + pos);

- #11 String sport1 = "running is the best";
String sport2 = sport1.substring(12);
System.out.println(sport2.substring(2, 2));
-
- #12 double num = Integer.MAX_VALUE + Integer.MIN_VALUE;
System.out.println(num + 2.45);
-
- #13 String sport = "running is the best";
String alphabet = "AESZHLXC";
String alphabet2 = alphabet.substring(6);
System.out.println(sport.substring(0, 3) + alphabet2);
-
- #14 String num1 = "367921";
int pos1 = num1.indexOf("4");
String num2 = Integer.parseInt(num1);
System.out.println(num2 + pos1);
-
- #15 int f = 50, h = 10;
double g = 2.5;
double num = f / h - g;
System.out.println(num);
-
- #16 String name1 = "abcdefgh";
String name2 = name1.substring(3, 3);
System.out.println(name2);
-
- #17 int num1 = 10;
int num2 = num1;
num1 = 15;
System.out.println(num2);
-
- #18 int length1 = "Hello World".length();
int length2 = "My name is".length();
System.out.println(length1 + length2);
-
- #19 String num1 = "14";
System.out.println(Integer.parseInt(num1) + "28");
-
- #20 int num1 = Integer.MAX_VALUE + Integer.MIN_VALUE;
int num2 = num1 + 10;
System.out.println(num2 + 1.4);
-

Nested "For" Loops Practice

```
#21 for(int k = 5; k >= 1; k--)
{
    for (int j = 1; j <= 6; j++)
        System.out.print(j * k + " ");
    System.out.println();
}
```

```
#22 for(int k = 9; k >= 2; k--)
{
    for (int j = 2; j <= k; j++)
        System.out.print(k + " ");

    if (k % 2 == 0)
        System.out.println();
}
```

```
#23 for(int k = 2; k <=6; k++)
{
    for (int j = 5; j <= 10; j++)
    {
        if ( (j + k) % 2 == 0)
            System.out.print("AP! ");
        else
            System.out.print("CS! ");
    }
    System.out.println();
}
```

NOTES: Tracing ArrayList Methods

#24

```
ArrayList <String> snacks = new ArrayList<String>();
snacks.add("raisins");      // raisins
snacks.add("bananas");     // raisins, bananas
snacks.add("crackers");    //
snacks.add(2, "grapes");   //
snacks.add("plums");       //
snacks.remove(0);          //
snacks.set(1, "figs");     //
snacks.remove(2);          //
System.out.println(snacks); // output here:
```

#25

```
ArrayList <String> snacks = new ArrayList<String>();
snacks.add("raisins");      //
snacks.add("bananas");     //
snacks.add("oreos");        //
String mySnack = snacks.get(1); // mySnack is:
snacks.add(mySnack);        //
snacks.set(4, "carrots");   //
System.out.println(snacks.get(0)); // output is:
snacks.remove(0);           //
System.out.println(snacks.remove(0)); // output is:
System.out.println(snacks.size()); // output is:
System.out.println(snacks.get(snacks.size() - 1)); // output is:
```

#26

```
ArrayList <String> shoppingCart = new ArrayList<String>();
String box = "Wheaties";
shoppingCart.add(box);      // Wheaties
shoppingCart.add("bananas"); // Wheaties, bananas
shoppingCart.add("crackers"); //
String jar = "Ragu";
shoppingCart.set(1, jar);   //
String snack = "Fritos";
shoppingCart.add(2, snack); //
System.out.println(shoppingCart.remove(0)); // output is:
String dairy = "milk";
shoppingCart.set(1, dairy);
System.out.println(shoppingCart); // output is:
```

#27 Trace the contents of the array after each line execution.

```
ArrayList <String> sports = new ArrayList<String>();  
sports.add("volleyball"); //  
sports.add("baseball"); //  
sports.add(1, "basketball"); //  
sports.add("soccer"); //  
sports.remove(2); //  
sports.set(1, "water polo"); //  
System.out.println(sports); // output:
```

#28 Trace the contents of the array after each line execution.

```
ArrayList <String> desserts = new ArrayList<String>();  
desserts.add("cookies"); //  
desserts.add("ice cream"); //  
desserts.add("brownies"); //  
  
String choice1 = desserts.get(1); //  
desserts.add(choice1); //  
desserts.set(1, "carrot cake"); //  
System.out.print(desserts.get(0)); // output:  
desserts.remove(0); //  
System.out.print(desserts.remove(0)); // output:  
System.out.print(desserts.size()); // output:  
System.out.print(desserts.get(desserts.size() - 2)); // output:
```

29 Identify the output of the following code segment.

```
ArrayList<Integer> list = new ArrayList<Integer>();  
list.add(3); list.add(6); list.add(5); list.add(8); list.add(12);  
int count=0;  
for(int i=0; i<list.size(); i++)  
{ if(list.get(i)%2==0)  
    count++; }  
System.out.println(count);
```

30 **NOTES: Storing Objects in Array Lists & Looping Through Array Lists**

```
public class Grade{  
    double gradeAverage; //  
  
    public Grade(double g){ //code not shown }  
  
    public getNumericGrade() { //gets numeric grade }  
  
    public String getLetterGrade(){ //gets letter grade associated with numeric grade }  
  
    public String toString(){ return getNumericGrade() + " = " + getLetterGrade(); }  
}
```

Assume the Following Code is written in a Tester Class!!
//instantiate an ArrayList of Grade references (objects)

//write the code to load in 8 random (double) Grade references between 0-100 – use a for loop

//write the code to print out each of the 8 Grades as a letter grade

//write the code to print out each of the Grade objects in the ArrayList in reverse order