

Intro to Programming in Java Chapter 1 Test Review

Name Key
Mrs. Parziale

Date _____

- 1) How is a Java program is best classified? Software
- 2) 5 bits can be used to represent how many distinct items or values?
 $2^5 = 32$
- 3) When executing a program, from where does the processor read each program instruction?
main memory
- 4) What is the difference between RAM, ROM, disk, software, computer networks?
Ram is volatile and all is lost with power off Rom & disk are perm-stor. software- programs
comp netw. communications of apps
- 5) What does a computer need in order for it to be accessible over a computer network?
network address
- 6) What does a URL (Universal Resource Locator) specify the address of?
addresses of files, documents, or sites on internet
- 7) Why is it important to dissect a problem into manageable pieces before trying to solve the problem?
- Big problems broken down are easier to handle.
- Complex problems should not be done as a single task.
- 8) What else do we need to do to complete our program once we have implemented a solution and why do we need to do this?
 1. Test prog. - fix errors
 2. revisit prog design & see if it can be better
 3. update system as new specs come out
 4. update later because of long updates
- 9) List some of the characteristics of the Java programming language as discussed in your textbook.
 - object oriented
 - lang introduced ≈ 1995
 - programs written to be executed on web
 - progs need to be translated to machine language
- 10) What is the purpose of comments in a computer program?
 - to explain what a prog does
 - to explain what the intention of the instructions (code) are

- 11) Write the code for (define) the main method for a Java program.

```
public static void main(String[] args)
```

- 12) How would you comment the instruction: `System.out.println("Hello World")`?

```
// used to demonstrate an output message
```

- 13) Which characters are allowed as identifiers?

— underscore numbers, letters
\$ dollar sign

- 14) List 3 legal and 3 illegal Java identifiers.

class totalValue 5NUM
 number1 Number - 1
 Bank_Account total*value

- 15) Give examples of

a) a syntax error

```
sytem.out.println("Hello");
```

s in system
not uppercase

b) a run-time error

divide by zero

c) a logical error

average of a set of #'s not calc correctly

- 16) Using Java naming convention, write a name for a **class** about store customers.

StoreCustomer

note uppercase for start
of class name

- 17) Write a good variable name for the current value of a stock.

currentStockVal

note lowercase for start of
variable name

- 18) What type of error occurs when you compile a program that is missing a semicolon?

Compile error

- 19) A color image is broken down into individual pixels (points), each of which is represented by
- a) a 1 for white and a 0 for black
 - b) 3 values denoting the shade of red, green and blue in the image**
 - c) a single number indicating the intensity of color between white and black
 - d) two numbers, a value that denotes where between white and black the color is, and a brightness

- 20) How is all information stored in the computer?

using binary numbers

- 21) What type of programming language is Java?

object-oriented

- 22) What does the statement `System.out.print` do in a program?

prints a message to the screen

- 23) What types of errors is the Java compiler able to find?

Syntax errors

- 24) What does it mean when we say that Java is a case-sensitive language? Give an example

TOTAT, Total, total are all diff identifiers

- 25) What does the compiler do with code placed inside of comments?

ignores it - does not execute them.

- 26) What are reserved words? List as many as you can think of. Can they be redefined by the programmer?

*class private
void static
public*

*See page 31 in
Yan text for more
reserved words.*

- 27) What type of error will dividing by 0 generate?

runtime error

28) What is a binary number?

numbers composed of 1's & 0's

29) What is bytecode?

- what the compiler converts your Java code to
 - this makes Java able to be used on any machine
 compiler → bytecode → interpreter → machine lang

30) What type of error is generated if you mistype "println" as "printn"?

Compiler error (syntax)

31) Do modern computers store information in analog or in digital?

Digital

32) What happens to data stored in a particular memory location when new data is written to that same location?

Overwrite it. Old data is gone.

33) What is wrong with the following class definition? Correct the error

```
public class Program1
{
    public static void main(String[] args)
    {
        System.out.println("My first Java program");
    }
}
```

missing semicolon.

34) What is wrong with the following class definition? Correct the error.

```
public class Program2
{
    public static void main(String[] args)
    {
        System.out.println("My second Java program");
    }
}
```

missing curly brackets

35) Given the following class definition, underline the reserved words.

```
public class Program3
{
    public static void main(String[] args)
    {
        System.out.println("My third Java program");
    }
}
```

36) What is wrong with the following println statement? Correct the error.

System.out.println "My fourth Java Program" ;

System.out.println("My fourth Java Program"); *Missing parenthesis*

37) What is the output of the following when the main method is executed? Write it exactly how it would look on the screen.

```
public class Question
{
    public static void main(String[] args)
    {
        System.out.println("hi there");
        System.out.println(" ");
        System.out.println("how are you doing today? ");
    }
}
```

println includes a carriage return

Note blank line between

hi there

how are

you doing

today?

38) What might good identifier names be that would be used to represent:

a) a person's social security number

Social Sec Num, ssNum

b) income tax withheld

incomeTax Withheld, incTaxWithheld, taxWithheld

c) net pay

netPay

39) Rewrite the following comment so that it can appear over multiple lines. (Change the type of comment indication used.)

// This is one really enormously long comment that might run off the page

/ This is an enormously long comment that might run off the page */*

You will also be asked to write two Java programs on your computer similar to the ones you have been doing in class.

Capital letter starts a Class

lowercase starts a variable