CIST 2371, Spring 2018

Midterm

Name: **Benjamin Diegel**

1. ***[5 pts]:*** Character literals are enclosed in \_\_\_\_\_\_\_\_; string literals are enclosed in \_\_\_\_\_\_\_\_.

a. single quotes; single quotes

b. double quotes; double quotes

c. single quotes; double quotes

d. double quotes; single quotes

2. ***[5 pts]:*** What is the purpose of the following types of dialog boxes?

a. Message dialog

**To display a message to the user.**

b. Input dialog

**To get written input from the user.**

3. ***[5 pts]:*** The if/else statement will execute one group of statements if its boolean expression is true or another group if its boolean expression is false.

\_\_\_\_\_\_\_\_.

a. False

b. True

4. ***[5 pts]:*** A for loop normally performs which of these steps?

a. initializes a control variable to a starting value

b. tests the control variable by comparing it to a maximum/minimum value and terminate when the variable reaches that value

c. updates the control variable during each iteration

d. all of the above

5. ***[5 pts]:*** Methods are commonly used to:

a. speed up the compilation of a program

b. break a problem down into small manageable pieces

c. emphasize certain parts of the logic

d. document the program

6. ***[10 pts]:*** What will be the following code output?

int apples = 0, bananas = 2, pears = 10;

apples += 10;

bananas \*= 10;

pears /= 10;

System.out.println(apples + " " + bananas + " " + pears);

10 20 1

7. ***[10 pts]:*** What will be the following code output?

String message = "Have a great day!";

System.out.println(message.toUpperCase());

System.out.println(message);

HAVE A GREAT DAY!

Have a great day!

8. ***[20 pts]:*** Word game (60 point)

Write a program that plays a word game with the user. The program should ask the user to enter the following:

His or her name

His or her age

The name of a city

The name of a college

A profession

A type of animal

A pet’s name

After the user has entered these items, the program should display the following story, inserting the user’s input into the appropriate locations:

There once was a person named **NAME** who lived in **CITY**. At the age of **AGE, NAME**

went to college at **COLLEGE**. **NAME** graduated and went to work as a **PROFESSION**.

Then, **NAME** adopted a(n) **ANIMAL** named **PETNAME**. They both lived happily ever

after!

import java.util.Scanner;

public class exam{

public static void main(String[] args){

Scanner keyboard = new Scanner(System.in);

String name, petName, city, college, profession, aniType;

int age;

System.out.print("Please enter your name.\n>>");

name = keyboard.nextLine();

System.out.print("Please enter a city name.\n>>");

city = keyboard.nextLine();

System.out.print("Please enter a college name.\n>>");

college = keyboard.nextLine();

System.out.print("Please enter your profession.\n>>");

profession = keyboard.nextLine();

System.out.print("Please enter an animal type (ie species).\n>>");

aniType = keyboard.nextLine();

System.out.print("Please enter an animal name.\n>>");

petName = keyboard.nextLine();

System.out.print("Please enter your age.\n>>");

age = keyboard.nextInt();

System.out.println("There once was a person named "+name+" who lived in "+city+". At the age of "+age+", "+name+

" went to college at "+college+". "+name+" graduated and went to work as a "+profession+". "+

"Then, "+name+" adopted a(n) "+aniType+" named "+petName+". They both lived happily ever" +

" after!");

}

}

9. ***[20 pts]:*** Shipping Charges : The Fast Freight Shipping Company charges the following rates:

**Weight of Package Rate per 500 Miles Shipped **

2 pounds or less  $1.10

Over 2 pounds but not more than 6 pounds $2.20

Over 6 pounds but not more than 10 pounds $3.70

Over 10 pounds $3.80

The shipping charges per 500 miles are not prorated. For example, if a 2-pound package is shipped 550 miles, the charges would be $2.20. Write a program that asks the user to enter the weight of a package and then displays the shipping charges.

import java.util.Scanner;

public class exam2{

public static void main(String[] args){

double packageWeight, finalShipCharge;

Scanner keyboard = new Scanner(System.in);

System.out.print("Please enter the weight of your package.\n>>");

packageWeight = keyboard.nextDouble();

finalShipCharge = calcCharges(packageWeight);

System.out.printf("Your total shipping charges is: $%.2f\n", finalShipCharge);

}

public static double calcCharges(double packageWeight){

if(packageWeight <= 2){

return packageWeight \* 1.10;

}

else if(packageWeight <= 6){

return packageWeight \* 2.20;

}

else if(packageWeight <= 10){

return packageWeight \* 3.70;

}

else if(packageWeight > 10){

return packageWeight \* 3.80;

}

return 0;

}

}

10. ***[15 pts]:*** Write a program that uses the while loop to print “Hello” five times.

Method call statements may be used in control structures like loops, if statements, and switch statements. Write a program that places the displayMessage method call inside a for loop.

public class exam3{

public static void main(String[] args){

for(int i = 0; i<=4; i++){

displayMessage();

}

}

public static void displayMessage(){

System.out.println("Hello!");

}

}

**Extra Point**

11. ***[20 pts]:*** Largest and Smallest

Write a program with a loop that lets the user enter a series of integers. The user should enter −99 to signal the end of the series. After all the numbers have been entered, the pro- gram should display the largest and smallest numbers entered.

import java.util.Scanner;

public class exam4{

public static void main(String[] args){

int big = 0, small = 0, temp, current;

boolean flag = true;

Scanner keyboard = new Scanner(System.in);

while(flag){

System.out.print("Please enter a number or a negative to exit.\n>>");

current = keyboard.nextInt();

if(current < 0){

flag = false;

}

else{

if(current > big){

big = current;

}

if(current < big || current <= small){

small = current;

}

}

}

System.out.println("The biggest number: " + big + "\nThe smallest number: " + small);

}

}