# Chapter 4

**Exercises:**

**1.**

1. T
2. T
3. F
4. F
5. F
6. T
7. F
8. T
9. T

**2.**

1. i

**3.** An entity which is created through class instantiation.

**4.** operator “new” instantiates an object from a class template.

**5.** str = new String (“Java Programming”);

**6.** When you store a string in memory and then change the value reference variable referring to it and as a result make the reference variable to refer to a new memory space, the first memory location becomes inaccessible. Therefore, garbage collection is used to free up this memory space.

System.gc();

**7.** java.lang

This package is part of the java language and as a result there is no need for it to be imported explicitly.

**8.**

1. G
2. h
3. 27
4. 6
5. 23

**9.**

1. Going
2. amusement
3. GOING TO THE AMUSEMENT PARK
4. going to the amusement park
5. Going \*o \*he amusemen\* park

**10.**

1. 31
2. programming
3. true
4. true
5. false

**11.**

1. false
2. true

**12.** Math

Math.pow(6.5,3.5);

**13.**

String name;

static Scanner console = new Scanner(System.in);

name = console.next();

name = “Brenda Clinton”;

**14.**

1. showInputDialog(stringExpression);
2. showMessageDialog(stringExpression);
3. JOptionPane
4. javax.swing

**15.**

Displays the message “Enter the score” and reads user’s input from standard input device(keyboard) and then stores the input in a memory location referred to by reference variable, scoreString.

**16.**

JOptionPane.showMessageDialog(null, "The sum of 2 and 3 = " + (2 + 3)

, "Summing", JOptionPane.INFORMATION\_MESSAGE);

**17.**

JOptionPane.showMessageDialog(null,"Current temperature: 70 degrees ", "Temperature", JOptionPane.INFORMATION\_MESSAGE);

**18.**

1. 75.40
2. 982.90
3. 75.399
4. 982.898

**19.**

x1 = Integer.parseInt("46");

y1 = Integer.parseInt("49")’

System.out.print("Input a character: ");

ch1 = console.next().charAt(0);

System.out.println(+ x1 +" "+ y1 + " " + ch1);

**20.**

import java.util.\*;

import java.io.\*;

public class Exercise3\_20 {

public static void main(String[] args)

throws FileNotFoundException {

Scanner inFile = new Scanner(new FileReader("Ex20Input.txt"));

PrintWriter outFile = new PrintWriter("Ex20Output.dat");

int num1, num2;

num1 = inFile.nextInt();

num2 = inFile.nextInt();

inFile.close();

outFile.println("Sum = " + (num1 + num2));

outFile.close();

}

}

**21.**

java.io

**22.**

Scanner inFile = new Scanner(new FileReader(“employee.dat”));

**23.**

int acctNumber = inFile.nextInt();

String accountType = inFile.next();

double balance = inFile.nextDouble();

**24.**

1. outfile = new PrintWriter("travel.dat");
2. outfile.printf("%.2f %.2f", distance, speed);
3. travelTime = distance / speed;

outfile.printf(" %.2f", travelTime);

**25.**

1. original contents
2. results
3. original 100 numbers are replaced by new results.
4. It will be created in case it did not exist before the program execution.