Exercise2.1

1. A program that can be taken to any computer and use normally.
2. Java is secure, robust and portable.
3. A thread is a process that can run concurrently with other processes. 2 thread, one thread transfers an image from one machine to another across a network, while the other thread simultaneously interacts with the user

Exercise 2.2

1. Java virtual Machine
2. The machine language for an imaginary Java computer, to run byte code JVM needs to be installed.
3. Java programs that are pre translated into byte code, mostly web based.

Exercise 2.5

1. Edit, compile, execute.
2. Inevitable that we will make typographical errors when errors when we edit programs, and the compiler will nearly always detect them.
3. A. system.out.println(“Here is an error”);

b. System.out.println(“Here is another error”);

1. It is Important because program offend out live the programmer and need to manage by other people.

Exercise 2.6

1. The system class that refers to the keyboard.
2. Assigns a number to a variable.
3. Reads the input entered by the keyboard, and tells the compiler where to find complete specifications for the class.
4. Double returns a 0.0 and scanner returns a value of any kind.
5. Print: print a string or variable on the same print on the same line

Println: prints everything on a new line

Exercise 3.2

1. Ints hold 4 bytes doubles hold 8 bytes.
2. Data types are combined in expressions involving operators whereas objects are sent messages.
3. a. 2.35e1 b. 4.6e-2
4. a. 322,100 b. 0.056
5. “Enter degrees Fahrenheit: “, “Please enter a number: “
6. Because the value of a variable can vary throughout the program.
7. double velocity; int total; String name. Not included: float, long, short.
8. double payRate = 35.67;
9. int a, b = 4, c;
10. String data and decimal data.
11. final double KILOGRAM = 2.2;
12. a. 25 b. -3 c. 30 d. 5
13. a. ‘-’ sign b. ‘)’ on the end c. No parameters
14. a. 2.25 b. 0.445 c. 0.5
15. a. Valid b. Valid c. Error
16. a. 9 b. 9
17. x = (int) y;
18. a. Java Wizard b. Java 4 Wizard c. Java (directly underneath) Wizard
19. String myInfo; myInfo = “Jared Burris \n 8411 Stone Lane \n 3175301234 \n”;
20. A method allows an object to correspond to a message.
21. Each item allows the method to do what it needs to do.
22. a. Valid b. Valid c. Invalid d. Valid e. Invalid
23. a. diameter b. DEDUCT c. createRect
24. x is the overall name of the package, y is the name of a subsection within the package, and z is the name of a particular class in the subsection.
25. Imports all classes within a subsection

Exercise 3.3

1. a. system.out.print (“ enter your hourly wage”);

wage = reader.nextDouble();

b. system.out.print(“Enter your Social Security number”);

ssn = reader.nextLine();

1. To tell the computer how to storage the variable being passed in.
2. It skips it. So add an extra agreement to catch the enter.

Exercise 3.5

1. The errors are detected at compile time.
2. x/y when y = 0. It can’t catch it because Y can change.

Exercise 3.6

1. Trouble shoot the code.
2. Change: area = base + height /2 ;

To : area = (base\*height)/2;

Exercise 4.1

1. A. x\*=2;

B. y % = 2;

1. A. x+=5;

B. x = x\*x;

Exercises 4.2

1. A. 2

b. 4.0

c. 64

d. 1.9

1. A. System.out.print(gen.nextInt(21));

b. System.out.print(gen.nextInt(10));

Exercise 4.4

1. Type of expression returns the value true or false
2. To hold what the if statement does if it is true.
3. If : only checks if one case is true

If-else has other statement for if the one before it isn’t true.

1. A. true

b. true

c. false

1. A. x > 0

b. numSec = mins

c. If (Math.*pow*(a,2) + Math.*pow*(b,2)== Math.*pow*(c,2));

1. A. 5

b. Not equal

1. A. If (x > y)

System.out.println(x);

Else

System.out.println(y);

b. system.out.println(“ enter a number” );

int x = reader.nextInt();

system.out.println(“ enter a other number” );

int y = reader.nextInt();

if (x > y)

system.out.println(y +” “ + x);

else

system.out.println(x +” “ + y);

Exercise 4.5

1. When the condition is false from the outset.
2. The three components are Initialize, test, and loop body
3. The statement or statements inside the loop never execute.
4. A. it list the exponents and raised basic 2 to the power of the exponents

B.it prints all the numbers entered until -999 is entered

1. A. int expo =1

While (expo <= 10)

{

System.***out***.println(expo + “ “ + Math.pow(expo, 2);

System.***out***.println(expo + “ “ + Math.pow(expo, 3);

Expo++;

}

b.

System.***out***.println(“do you want to play? “);

String anw = reader.next();

While (anw ! =no)

{

System.***out***.println((int) (Math.random()\*10));

System.***out***.println(“do you want to play? “);

String anw = reader.next();

}

c. System.out.println(“How old are you? “);

int anw = reader.nextInt();

While (anw ! = 100)

{

System.out.println(anw);

System.out.println(“How old are you? “);

int anw = reader.nextInt();

}

Exercise 4.6

1. A. print the exponent and rises 2 to the power that exponent

b. takes the expo makes it equal to count then subtracts 1 and times base(2) times base

2. a. String pow2 = **null**, pow3 = **null**;

**for** (**int** i = 1; i <= 10 ; i++)

{

pow2 = pow2 + " " + Math.*pow*(i,2) + " " ;

pow3 = pow3 + " " + Math.*pow*(i,3) + " " ;

}

System.out.println("The power of 2’s :" + pow2);

System.out.println(" The power of 3’s :" + pow3);

}

b. String pow2 = **null**, pow3 = **null**;

**for** (**int** i = 1; i <= 10 ; i++)

{

pow2 = Math.*pow*(i,2) + " " + pow2 + " " ;

pow3 = Math.*pow*(i,3) + " " + pow3 + " " ;

}

System.out.println("The power of 2’s :" + pow2);

System.out.println(" The power of 3’s :" + pow3);

}

1. A. the user enters a number. The computer raise it to the power of 2. Does this 5 times.

b. Raises 2 to the power of the expo

Exercise 4.7

1. A. if I is even then print it.

b. makes a guessing game where guess a number from 1-10 and stops if you guess right

1. A.

String pow2 = **null**, pow3 = **null**;

**for** (**int** i = 1; i <= 10 ; i++)

{

if (i % 2 == 1)

{

pow2 = pow2 + " " + Math.*pow*(i,2) + " " ;

pow3 = pow3 + " " + Math.*pow*(i,3) + " " ;

}

}

System.out.println("The power of 2’s :" + pow2);

System.out.println(" The power of 3’s :" + pow3);

}

b. String pow2 = **null**, pow3 = **null**;

**for** (**int** i = 1; i <= 10 ; i++)

{

if (i % 2 == 0)

{

pow2 = Math.*pow*(i,2) + " " + pow2 + " " ;

pow3 = Math.*pow*(i,3) + " " + pow3 + " " ;

}

}

System.out.println("The power of 2’s :" + pow2);

System.out.println(" The power of 3’s :" + pow3);

}

Exercises 4.8

1. Uses a scanner class for a text file input that we use for keyboard input.

A. Scanner reader = **new** Scanner(**new** File("numbers.txt"));

**double** number, sum = 0;

**int** count = 0;

**while** (reader.hasNext()){

number = reader.nextDouble();

sum += number;

count++;

}

**if** (count == 0)

System.***out***.println("The file had no numbers");

**else**

System.***out***.println("The average of " + count + " numbers is " +

sum / count);

B. . Scanner reader = **new** Scanner(**new** File("numbers.txt"));

**int** number, nums = 0;

**int** count = 0;

**while** (reader.hasNext()){

number = reader.nextInt();

nums = reader.nextInt();

}

**if** (count == 0)

System.***out***.println("The file had no numbers");

**else**

System.***out***.println( number+ “ “ nums);

Exercise 4.9

1. A.its missing an a { and }
2. B. its missing a {

Ch 2 Review Questions

1. Java is secure, robust, and portable.
2. Byte code is the machine language for an imaginary java computer.
3. Java virtual machine, a program that behaves a like a computer.
4. System.out.print and system.out.println
5. Cannot return a value from a method of type void or 'Class' or 'interface' expected
6. Edit, compile, execute
7. So people that don’t know how to program can read the code

Chapter 3 review

1. Double bat;

Int x;

System.out.println(“ enter the batter”);

Bat =reader.nextdouble();

While (bat!= no)

{

X++;

Bat=+;

System.out.println(“ enter the batter”);

Bat =reader.nextdouble();

}

System.out.println(bat/x);

1. Integer literal

int decVal = 26; int hexVal = 0x1a; int binVal = 0b11010;

floating-point

double d1 = 123.4; double d2 = 1.234e2; float f1 = 123.4f;

1. String name; int age; double wag;
2. Because it can change the answer.

Chapter 4 review

1. A. false

b. true

c.true

d. false

e. true

2. a. if ( x > y)

System.out.println(“ greater”);

Else if ( x < y)

System.out.println(“ less”);

Else

System.out.println(“ equals”);

b. x = x + 10

if (y < 0)

System.out.println(“x);

c. string a,b,c =null;

int x;

if (x> 90)

System.out.println(a);

Else if (80<x<= 90)

System.out.println(b);

else

System.out.println(c);

1. A. Yes correct

b. yes, correct

c. not correct because has no ()

4. a. int x,y = 0;

If (x >= 0 && y >= 1){

for(int i=x; i<=y; i++)

{

System.out.println(i);

}

}

b. int x,y = 0;

double awn = 0.0;

for(int i=x; i<=y; i++)

{

Awn= awn + Math.pow(x, 2);

}

System.out.println(awn);

c. int y = 0;

double awn = 0.0;

for(int i=y; i>=0; i--)

{

System.out.println(i);

}

1. A. If ( x > y )

System.out.println(x);

Else if ( x < y )

System.out.println(y);

b. double x,y = 0.0;

system.out.println(max(x,y));

//project 4

**import** java.util.Scanner;

**import** **static** java.lang.Math.\*;

**public** **class** Project4 {

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

{

**double** booksale = 0.0;

Scanner reader = **new** Scanner(System.in);

System.out.println("enter the price of the book::" );

**double** bookPri = reader.nextDouble();

System.out.println("The markup is::" + " $" + bookPri\*.10);

System.out.println("The whole sale price is::" + " $" + (bookPri - (bookPri\*.10)));

booksale = booksale + bookPri;

System.out.println("The Total cost is is::" + " $" + booksale);

System.out.println("enter the price of the book or -1 to halt::" );

bookPri = reader.nextDouble();

**while** (bookPri != -1.0)

{

System.out.println("The markup is::" + " $" + bookPri\*.10);

System.out.println("The whole sale price is::" + " $" + (bookPri - (bookPri\*.10)));

booksale = booksale + bookPri;

System.out.println("The Total cost is is::" + " $" + booksale);

System.out.println("enter the price of the book or -1 to halt::" );

bookPri = reader.nextDouble();

}

System.out.println(" Bye bye");

}// end of main

}// end of project 4

//project 4 (critical thinking)

**import** java.util.Scanner;

**import** **static** java.lang.Math.\*;

**public** **class** Project4 {

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

{

**double** booksale= 0.0;

**double** totalmark = 0.0;

Scanner reader = **new** Scanner(System.in);

System.out.println("enter the price of the book::" );

**double** bookPri = reader.nextDouble();

**double** markup = bookPri\*.10;

totalmark = totalmark + markup;

System.out.println("The markup is::" + " $" + markup );

System.out.println("The whole sale price is::" + " $" + (bookPri - markup));

booksale = booksale + bookPri;

System.out.println("enter the price of the book or -1 to halt::" );

bookPri = reader.nextDouble();

**while** (bookPri != -1.0)

{

System.out.println("enter the price of the book::" );

bookPri = reader.nextDouble();

markup = bookPri\*.10;

totalmark = totalmark + markup;

System.out.println("The markup is::" + " $" + markup );

System.out.println("The whole sale price is::" + " $" + (bookPri - markup));

booksale = booksale + bookPri;

System.out.println("enter the price of the book or -1 to halt::" );

bookPri = reader.nextDouble();

}

System.out.println("The Total cost is is::" + " $" + booksale);

System.out.println("The Total markup is is::" + " $" + totalmark);

}// end of main

}// end of project 4

//project 2-4

**import** java.util.Scanner ;

**public** **class** project24 {

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

{

**int** mins = 60 ;

**int** hours = 24 \* mins;

**int** days = 365 \* hours;

String strI = Integer.*toString*(days);

System.out.println(strI + " mins");

}// end of main

}// end of class

//Project 2-5

**import** java.util.Scanner ;

**public** **class** project25 {

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

{

Scanner reader = **new** Scanner(System.in);

**double** mass, momentum, velocity ;

System.out.print("Please Leave Out All Units: \n Enter the mass of the object ( in kiograms)");

mass = reader.nextDouble();

System.out.print("Enter the velocity of the object ( in m/sec)");

velocity = reader.nextDouble();

momentum = velocity \* mass;

String strI = Double.*toString*(momentum);

System.out.println("the momentum of the object is " + strI);

}// end of main

}// end of class

//project 3-2

**import** java.util.Scanner;

**public** **class** project32 {

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

{

Scanner reader = **new** Scanner(System.in);

**double** radius, diameter,circumfernce, surfacearea,volume;

System.out.print("enter the radius of the sphere::");

radius = reader.nextInt();

diameter = 2\* radius;

circumfernce = 2\* radius \* Math.PI;

surfacearea = 4 \* Math.PI \* (radius \* radius);

volume = (4/3) \* Math.PI \* (radius \* radius \* radius);

System.out.println("The diameter is " + diameter);

System.out.println("The circumfernce is " + circumfernce);

System.out.println("The surface area is " + surfacearea);

System.out.println("The volume is " + volume);

}

}

//Project 3-3

**import** java.util.Scanner;

**public** **class** project33 {

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

{

Scanner reader = **new** Scanner(System.in);

**double** mass, kinetic, velocity ;

System.out.println("Please Leave Out All Units: \n \n Enter the mass of the object ( in kiograms)");

mass = reader.nextDouble();

System.out.print("Enter the velocity of the object ( in m/sec)");

velocity = reader.nextDouble();

kinetic = (1/2) \* (velocity \* velocity) \* mass;

System.out.println("the kinetic energy of the object is " + kinetic);

}// end of main

}// end of class

//Project 4-1

**import** java.util.Scanner;

**public** **class** project41 {

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

{

Scanner reader = **new** Scanner(System.in);

**int** numone,whole, remind, numtwo =0;

System.out.println("Please enter the first number::");

numone = reader.nextInt();

System.out.println("Please enter the second number::");

numtwo = reader.nextInt();

**if** ( numone > numtwo)

{

whole = numone / numtwo ;

remind = numone % numtwo ;

System.out.println("The Anwsers is ::" + whole +" r" + remind);

}// end of if

**else** **if** ( numone < numtwo)

{

whole = numtwo / numone ;

remind = numtwo % numone;

System.out.println("The Anwsers is ::" + whole +" r" + remind);

}// end of else if

}// end of main

}// end of project

//Project 4-2

**import** java.util.Scanner;

**import** **static** java.lang.Math.\*;

**public** **class** project42 {

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

{

Scanner reader = **new** Scanner(System.in);

**double** a,b,c =0;

System.out.println("enter the length of the hypotenuse ::");

c = reader.nextDouble();

System.out.println("enter the length of the A::");

a = reader.nextDouble();

System.out.println("enter the length of the B::");

b = reader.nextDouble();

**if** ((*pow*(a, 2)+ *pow*(b, 2)) == *pow*(c, 2))

System.out.println("The triangle is a right triangle");

**else**

System.out.println("The triangle is NOT a right triangle");

}//end of public

}// end of class

//Project 4-7

**import** java.util.Scanner;

**import** **static** java.lang.Math.\*;

**public** **class** project47 {

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

{

**int** awn =0;

Scanner reader = **new** Scanner(System.in);

System.out.println("Enter a number or -1 to halt::");

awn = reader.nextInt();

**while** (awn !=-1)

{

System.out.println("= " + Math.*pow*(2,awn));

System.out.println("Enter a number or -1 to halt::");

awn = reader.nextInt();

}// end of while loop

System.out.println("End");

}// end of main

}// end of class

//Project 4-8

**import** java.util.Scanner;

**import** **static** java.lang.Math.\*;

**public** **class** project48 {

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

{

**int** base,exp =0;

Scanner reader = **new** Scanner(System.in);

System.out.println("Enter the base ::");

base = reader.nextInt();

System.out.println("Enter the exponent or -1 to halt::");

exp = reader.nextInt();

**while** (exp !=-1)

{

System.out.println("= " + Math.*pow*(base,exp));

System.out.println("Enter the base or -1 to halt::");

base = reader.nextInt();

System.out.println("Enter the exponent or -1 to halt::");

exp = reader.nextInt();

}// end of while loop

System.out.println("End");

}// end of main

}// end of class

//PROJECT 4-9

**import** **static** java.lang.Math.\*;

**import** java.io.File;

**import** java.io.FileNotFoundException;

**import** java.util.Scanner;

**public** **class** project49 {

**public** **static** **void** main(String [] args) **throws** FileNotFoundException

{

**int** base,exp =0;

Scanner reader = **new** Scanner(**new** File("textfile.txt"));

System.out.println("Enter the base ::");

base = reader.nextInt();

System.out.println("Enter the exponent or -1 to halt::");

exp = reader.nextInt();

**while** (exp !=-1)

{

System.out.println("= " + Math.*pow*(base,exp));

System.out.println("Enter the base or -1 to halt::");

base = reader.nextInt();

System.out.println("Enter the exponent or -1 to halt::");

exp = reader.nextInt();

}// end of while loop

System.out.println("End");

}

}