**CSC 152 – Computer Programming II** **Review Some Concept from CSC 151**

**It is your responsibility to make sure that you know and understand concepts from CSC 151. You can use the PowerPoint posted on Blackboard to help revise these concepts.**

**We will go over these and then you will use these concepts in your Program Assignment 1.**

**Terminology/Definition**

1. Reserved Words – int, double (purple words)
2. Syntax – order of your statement, if wrong you get an error
3. Punctuations - ;
4. Variables – the word you store information with
5. Operators - +, -, \*, / (Logical is &&, II, !)
6. Constant – final, making a value that doesn’t change (Usually financial)
7. Algorithm – Order of problem-solving in coding
8. Three (3) types of Java errors – Syntax (Compile), Logical (Forgeting to clear buffer), Runtime (Ask for a number and you input a letter)
9. Eight (8) primitive data types –

byte (1)

short (2)

int (4)

long (8)

float (4)

double (8)

char (2)

A screenshot of a computer

Description automatically generatedboolean (1)

1. Difference between these three
   1. “A” – String
   2. ‘A’ – Char
   3. A – variable
2. Order of precedence –---------------------🡪

“primitive-type” vs. “class-type” variable

Primitive

byte (1)

short (2)

int (4)

long (8)

float (4)

double

Class type

char

boolean

1. Data Conversion – int 🡪 double or double 🡪 int ( int = (double) 4+4; )
2. Reading from Keyboard
   1. Scanner import – import java.util.Scanner ;
   2. Scanner object – Scanner keyboard = new Scanner(System.in);
   3. Scanner read input
      1. Int – keyboard.nextInt();
      2. double – keyboard.nextDouble();
      3. String – keyboard.nextLine();
      4. A Line (Char) – keyboard.nextLine().CharAt(0);
3. Math class and methods
   1. Math.pow method – (base,power)
   2. Math. sqrt method – (Equation)
   3. Math.PI – (Full Pi)
4. Random class – import java.util.Random;

Random random = new Random();

* 1. nextInt(x) method - random.nextInt(range)
  2. nextDouble(x) method -random.nextDouble(range)

1. Conditioning Statements
   1. If – if this is correct, do this
   2. if-else – if this is correct, do this, else, do this
   3. if-else-if – if this is correct, do this, else, do this if…
   4. switch –A screenshot of a computer program

      Description automatically generated
   5. nested conditioning – if this is correct and if this is also correct, perform else
2. Logical Operator (for conditions)
   1. && – AND
   2. || – OR
   3. ! – NOT
3. Repetition
   1. while – while this is true, do the following (this checks first)
   2. do-while – do this and that while this is true (this checks last)
   3. for – for every this, do that each time
4. nested loop – continue a loop with a condition, inside a loop with a different condition
5. Increment (++) and Decrement (--) operators
   1. ++x vs. x++ – Add 1 first then add x vs. Add x first then add 1. Can give different results.
   2. --x vs. x-- – Refer to a.

**Program Structure / Code Segment**

1. Write the Java basic program call **MyIntro**, including main method, and this program should print your name and your major.

public class MyIntro

{ public static void main(String[] args)

{

S.O.Pln(“Name: Michael Amoo”);

S.O.Pln(“Major: Computer Science”);

1. 4 ways to increase *NUM* by 1

NUM++

NUM = NUM+1

NUM + = 1

NUM++

24. What does this statement do? Explain char aChar = x.charAt(x.length( )-1);

Attempts to pull the last letter, needs -1 because you can’t go beyond 0 normally

25. Write an if-else statement that assigns 0.1 to commission unless sales is greater than or equal to 50000, in this case, it assigns 0.2 to commission.

if ( sales >= 50000)

commission = 0.1;

else

commission = 0.2;

26. Using appropriate logical operator, write an if statement that prints the message “The number is valid” when the variable speed is within the range 0 through 200. (include both 0 and 200)

if (range >= 0 && range <= 200)

S.O.P (“Number is valid”);

27. Write code segment to compare if two Strings (*name1* and *name2*) are the same

if (name1.compareTo(name2) == 0) OR if(name1.equals(name2))

28. Write code segment to print *name1* and *name2* in alphabetical order (hint: using if-else)

if (name1.compareTo(name2) < 0)

S.O.Pln(name1 + “, “ + name2);

S.O.P(name2 + “, ” + name1);

29. Write a code segment that will print out the values in order for num1, num2, num3 (Hint: need condition statement)

if (num1 < num2 && num2 < num3) (From one to two, then from two to 3) (Think of the middle part as a bridge)

S.O.P(num1 + “, “ + num2 + “, “ + num3);

30. Write code segment to print out the names (String) in alphabetical order: name1, name2, name3

if (name1.compareTo(name2) < name2.compareTo(name1) && name2.compareTo(name3) < 0

S.O.P(name1 + “, “ + name2 + “, “ + name3);

Extra (Backwards, name3 then name2 then name1)

else if (name3.compareTo(name2) < 0 && name2.compareTo(num1) < 0;

S.O.P(name3 + “, “ + name2 + “, “ + name3;

(Remember to use IgnoreCase() sometimes (Ex: name1.compareTo.IgnoreCase(name1)

c. double y = 5.7; int x = y; =3.0

b. int x = 4, y = 14; double z = y / (double) x; = 3.5

CSC 151 Review (Part 1 – Basic Java and Conditioning Statements) – Page 2

23. What are the results of the following code segment after each line is executed:

d. int length = 8 / 3;

length = length \* 3;

100

a. a. int Y = 17 % 3 \* 2 - 10 + 5 \* 2; = 4

length += 4; length \*= 10;

e. double length = 9 / 2; length = (double) 9 / 2; length = 9 / (double) 2; length = (double) (9 / 2); = 4.0 (Remember it does the math then the conversion

