**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.
2. 4 ways to increase *NUM* by 1

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

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.

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)

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

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

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

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

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

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

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

a. int Y = 17 % 3 \* 2 - 10 + 5 \* 2; d. int length = 8 / 3; length = length \* 3;

length += 4; length \*= 10;

e. double length = 9 / 2; length = (double) 9 / 2; length = 9 / (double) 2; length = (double) (9 / 2);