Pop Quiz

**Logo1**

**Cégep de la Gaspésie et des Îles**

## Montreal Campus

**Algorithms**

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Part 1 Grade:

Part 2 Grade:

Part 3 Grade:

Total Grade (out of 35): \_\_\_\_\_\_\_

Part 1: Multiple Choice (15 points):

Half a point per question and circle only **one** answer per question

1) Which of the following is not a valid identifier?

**a)** $1yz\_

**b) \_**z\_xc3

**c)** $abc

**d)** 4yxz

**e)** none of the above

2) The method public double mySqrt(int x){ … }

**a)** defines a method called mySqrt which takes a double as an argument and

returns a integer

**b)** defines a method called double which calculates square roots

**c)** defines a method called mySqrt which takes an argument of type x and returns a

double

**d)** defines a method called mySqrt which takes a double as an argument and returns

an integer

**e)** none of the above

3) What are the final values of a and b after the following instructions have

been executed?

int a = 2, b = 1;

b -= a + 4;

a \*= b - a;

**a)** a= -5, b= -7

**b)** a= -14, b= -5

**c)** a= 7, b= 2

**d)** a= 4, b= 6

**e)** a=-12, b=-5

4) What will be the value of *a* after the following instructions?

int a = 6, b = -6, c= 0;

a = b = c + 10;

**a)** 10

**b)** 4

**c)** 16

**d)** 0

**e)** 1

5) What will be the value of *a* after the following instructions?

int a = 3, b = -2, c= 0;

a = 5 + (b++) + (++c);

**a)** 0

**b)** 6

**c)** 2

**d)** 4

**e)** None of the above

6) What is the result of the expression: "abc" + 4 + 5 + "fgh"?

**a)** "abc45fgh"

**b)** "abc4fgh5"

**c)** "abc9fgh"

**d)** Not a legal Java expression

7) What is the value of the variable c in the statements that follow?

String phrase = "Make hay while the sun is shining.";

**char** c = phrase.charAt(10);

**a)** h

**b)** w

**c)** i

**d)** None of the above

8) What is the Java expression for 4a2 + 2b \* c?

**a)** (4 \* a) + (2 \* b) \* c

**b)** ((4 \* a \* a) + (2 \* b)) \* c

**c)** (4 + a \* a) + ((2 + b) \* c)

**d)** (4 \* a \* a) + ((2 \* b) \* c)

9) What does this code fragment print?

int result = 9;

for (int cnt = 2; cnt < result; cnt += 3)

result = cnt;

System.out.println("result = " + result);

**a)** result = 2

**b)** result = 8

**c)** result = 9

**d)** result = 11

10) What is the output:

int x =0;

System.out.println(“x=“ + (++x - --x + x + x++));

**a)** x=0  
**b)** x=1  
**c)** x=2  
**d)** x=3

Part 2: Output Questions (3 points each)

1) Review the following algorithms and determine what is the output of the fragments of code? (3 points each)

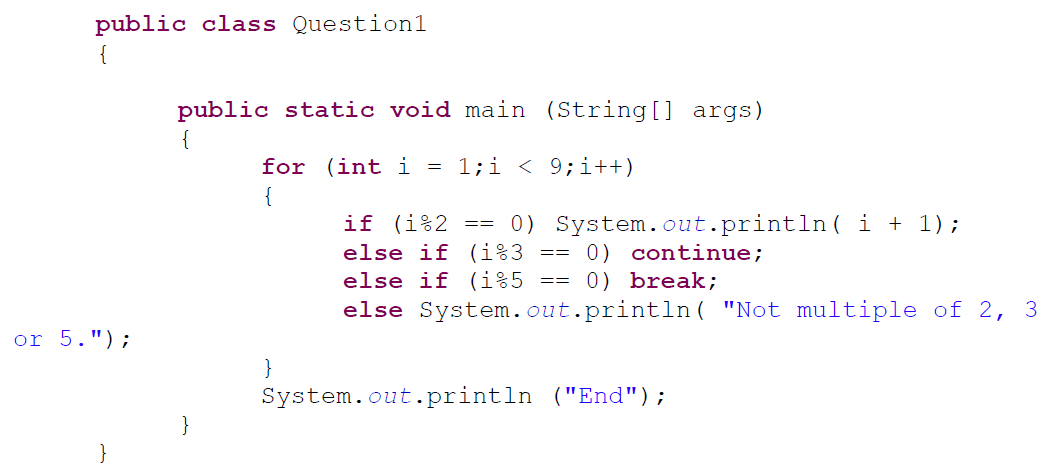
A)

Not multiple of 2, 3 or 5.

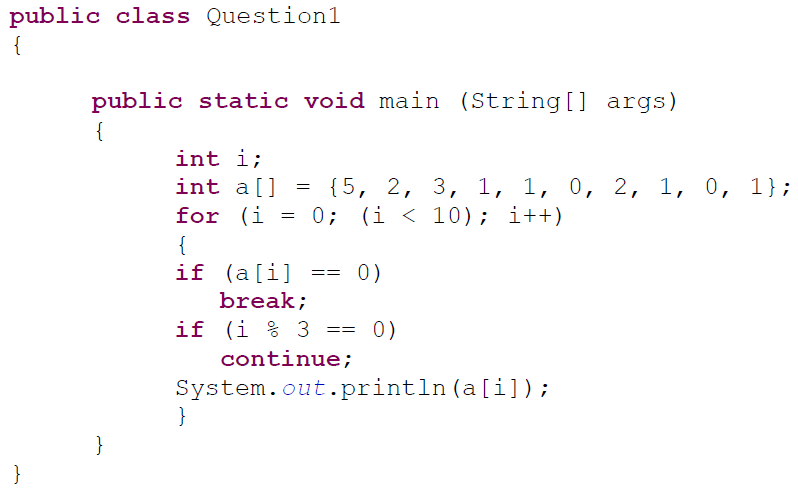
3

5

End



B)



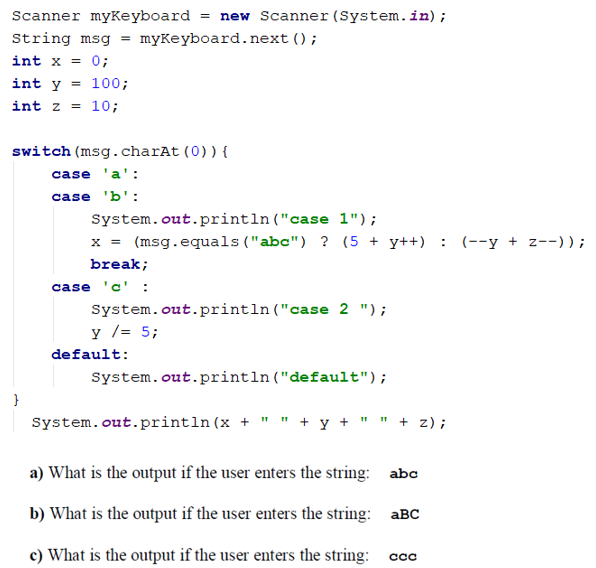
5

2

3

1

C) Assume the following code:



a)

case 1

105 100 10

b)

case 1

109 100 10

c)

case 2

default

0 20 10

d)

String s1 = "abc";

String s2 = **new String("abc");**

**Output:**

**10**

**18**

**if(s1 == s2)**

System.*out.println(14);*

**else**

System.*out.println(10);*

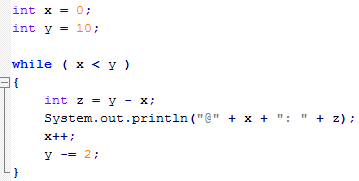
**if(s1.equals(s2))**

System.*out.println(18);*

**else**

System.*out.println(7);*

e)



Output:

@0:10

@1:7

@2:4

@3:1

Part 3: Programming Question (10 points):

1) Write a program that takes a temperature from the user in Fahrenheit and then converts that number to Celsius. The code must be written in **full** and include any packages necessary with the class name, main method etc. Use the space below to write your answer and read the formula *carefully* when answering the question. (5 points)

*T*(°F) = *T*(°C) × 9/5 + 32

import java.util.Scanner;

public class Temperature

{

public static void main(String[] args)

{

Scanner sc = new Scanner(System.in);

System.out.print(“Please enter the temp in Fahrenheit: ”)

double fah = sc.nextDouble();

double cel = ((fah – 32)\*5)/9;

System.out.println(“\nTemperature in celcius: ” + cel)

}

}

2) Give the pseudo or java code that prints the following pattern and assume the length or number of rows is a number taken from the user (5 points)

[\*](javascript:%20void(0);)

[\*\*](javascript:%20void(0);)

[\*\*\*](javascript:%20void(0);)

[\*\*\*\*](javascript:%20void(0);)

[\*\*\*\*\*](javascript:%20void(0);)

Declare an integer variable i

Declare an integer variable j

Declare an integer variable k

Output “Enter # of rows”

Input rows

for i = 0 to rows

for j = rows to i

Output whitespace -noNewLine

J=j-1

endfor

for k = 0 to i

Output \* -noNewLine

K = k + 1

endfor

newline

endfor