

Memorial University of Newfoundland  
**ENGI 1020 Introduction to Programming**  
**Midterm Test 1 (Total 50 Marks)**

Instructor: Dr. Mashrura Musharraf

9:00 – 9:50 AM

October 7, 2019

**Name:** \_\_\_\_\_

**Student Number:** \_\_\_\_\_

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**Note:**

1. Answer all questions. Write your answers on the exam question sheets, in the space provided. You may use the back of the pages for rough work.
  2. This is a closed-book exam: written aids are not permitted.
  3. Calculators, phones, or electronic device of any kind are not permitted.
  4. Unless otherwise stated, all code listed in this exam executes correctly.
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**Do Not Write Below This Line**

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1	/20
2	/3
3	/17
4	/10
<b>Total</b>	<b>/50</b>

1. Read the question carefully and select the correct answers from the choices offered. [20]

(a) The “How to” knowledge, or recipes for deducing information is called – [1]  
 Declarative Knowledge  
 Imperative Knowledge

(b) Which one of the following are integral to a language – [1]  
 A set of primitive constructs  
 A syntax  
 A semantic  
 All of the above

(c) A combination of values and operators that resolves into a value is called – [1]  
 Expression  
 Literals  
 Logic  
 All of the above

(d) Operators that are used to compare two values and evaluate to True or False are called – [1]  
 Arithmetic operators  
 Comparison operators  
 Logical operators  
 Assignment operators

(e) A declarative sentence that is either true or false, but not both is called a – [1]  
 Proposition  
 Syntax  
 Semantics  
 Logic

(f) What will the following python script output when run? [2]

```
type("abc")  
print(3.0-1)
```

- str
- 2.0
- str then 2.0
- nothing

(g) You have two variables x and y, which of the following command is valid in Python? [1]  
  $x + y = 2$   
  $x * x = 2$   
  $2 = x$   
 None of the above

(h) You wrote the following code in a script (.py file). What will be the type of distance and speed respectively? [2]

```
distance = 1000  
time = 20  
  
speed = distance/time
```

- int and float
- float and float
- int and int
- float and int

(i) In Python, you can take input from the user using the input () function. What is the default type of the input? [1]  
 int  
 string  
 float  
 number

(j) The following code in Python would give an error. What would the error type be? [2]

```
if 5 > 2:
    print("Five is greater than two!")
    print("Five is greater than two!")
```

- Syntax Error
- Semantic Error

(k) What will the following python script output when run? [2]

```
number1 = '5'
number2 = '42'

print(number1 + number2)
```

- 47
- 47.0
- 542
- None of the above

(l) Meaningful variable names are for the benefit of the – [1]

- Programmer
- Computer
- Both

(m) What will the following python script output when run? [2]

```
x, y = 20, 30
x, y = y, x
print("y =", y)
```

- y = 30
- y = 20
- 30
- 20

(n) What will the following python script output when run? [2]

```
a = True
b = False
print(a and b)
```

- True
- False
- 0
- 1

2. A square pyramid with base edge  $a$  and height  $h$  has a volume of  $V = (a^2h)/3$ . Given Python variables  $a$  and  $h$ , write a Python expression for the volume of a square pyramid. [3]

3. Read the question carefully, understand the given code, and answer appropriately.

[17 Marks]

(a) What will the following python script output when run?

[8]

```
var = 100
if var < 200:
    print("LT 200")
    if var == 150:
        print("V: 150")
    elif var == 100:
        print("V:100")
    elif var == 50:
        print("V:50")
    elif var < 50:
        print("LT 50")
else:
    print("NA")

print("Good bye!")
```

(b) What will the following python script output when run?

[5]

```
length = 40
width = 4

area = length * width
length = 50

print("A: ", area)
print("L: ", length)
```

(c) What will the following python script output when run?

[4]

```
name = "Ana "
greeting = 2 * ("Hi " + name)
print(greeting)
```

4. Write a python program that takes 3 input numbers from the user and prints the largest number among them. [You can assume that the user will input digits (such as *1* or *10*) and not letters (such as *abc*)]

[10 Marks]