**In-class activity 9 – Boolean expressions, logical operators, and if statements**

NAME: Your name here

1. Indicate whether each Boolean expression below evaluates to True or False. Let **n=10** and **k=20**. Test your answer in Thonny.
   1. (n>10) and (k==20) ANSWER: ?
   2. (n>10) or (k==20) ANSWER: ?
   3. not( (n>10) and (k==20) ) ANSWER: ?
   4. (not(n>10)) and (not(k==20)) ANSWER: ?
   5. (n>10) or (k==10 or k != 5) ANSWER: ?
   6. (n<20) or (k==20) ANSWER: ?

For example, in Python you could write:

A close up of a logo

Description automatically generated

1. Give a Boolean expression for each of the following. Determine if variable **num** is:
   1. greater than or equal to 0 and less than 100.

ANSWER: ?

* 1. less than 100 and greater than or equal to 0, or it is equal to 200.

ANSWER: ?

* 1. a strictly positive number but not larger than 150 (inclusive).

ANSWER: ?

1. Consider these lines of code to answer the following questions. Test your answer in Thonny.

if x>5:

print("A")

elif y<10:

print("B")

elif x==10:

print("C")

else:

print("D")

* 1. What prints out if initially x = 5 and y = 11? ANSWER: ?
  2. What prints out if initially x = 10 and y = 11? ANSWER: ?
  3. What prints out if initially x = 0 and y = 5? ANSWER: ?
  4. Is there any value of x or y that will print “C”? ANSWER: ?

1. What exactly do the following statements print in Thonny? (Don’t forget to import random)
   1. print( random.random() ) ANSWER: ?
   2. print( random.random() ) ANSWER: ?
   3. print( random.random() ) ANSWER: ?
   4. Why are they different? ANSWER: ?
2. If you finish early
   1. complete problem 2.33 on page 72 of your book. Copy your function definition below.

ANSWER:

?

* 1. complete problem 2.35 on page 72 of your book. Copy your function definition below.

ANSWER:

?

**Each individual will submit this word document to Moodle (Activity 9) when finished.**