Name:

MTEC2002 - Quiz 1
Feb 22nd, 2012

1. Answer the following questions about running Python code. (2 points)

   a) In terminal, what command would you type in to run a file called "guess_number.py". Assume that you are already in the directory that the file is in.

   b) In terminal, if you are not in the same directory that your file is in, what command would you use to change to that directory? Let's assume that you are in your home directory, and your file is in Desktop.

   c) In terminal, what command would you use to list the contents of the directory that you're currently in?

   d) In terminal, what command would you type in to run an interactive Python session?

   e) Extra Credit (1/2 point)
   In terminal, how do print the name of your current directory (how do you "print working directory"?)?

2. Write the value that the following numerical expressions will return. Treat the lines of code as if they were in typed in the interactive Python shell. To indicate that nothing is returned or printed out, draw a dash (a horizontal line). (2 points)

   a)
```
>>> 9 / 2
```

   b)
```
>>> 9 / 2.0
```

   c)
```
>>> 9 % 2
```

   d)
```
>>> multiplier = 2
>>> multiplier * 9
```

   e) Extra Credit: (1/2 point)
```
>>> x = 7
>>> (24 % x) * 3.0
```

3. Write the value that the following expressions will return. Treat the lines of code as if they were in typed in the interactive Python shell. To indicate that nothing is returned or printed out, draw a dash (a horizontal line). (2 points)

   a)
```
>>> "Good " + "day!"
```

   b)
```
>>> "Hello %s" % "everyone!"
```

   c)
```
>>> s = "everbody"
>>> "Hi %s!!!" % (s)
```

   d)
```
>>> "Hi %s, how are %s?" % ("there", "you")
```

   e) Extra Credit: (1/2 point)
```
>>> # Why does the following line return an error?
>>> "This is worth %d point" % "1"
```

4. Write out what the following code will output. (2 points)

   a)
```
>>> if 5 > 0:
...  print "five is greater than zero"
```

   b)
```
>>> if 12 < 9:
...  print "twelve is less than nine"
```

   c)
```
>>> if 5 > 0 and 12 < 9:
...  print "using and"
```

   d)
```
>>> if 5 > 0 or 12 < 9:
...  print "using or"
```

5. Write out what the following code will output. (2 points)

a)
```
>>> if "foo" == "bar":
...  print "foo equals bar"
```

b)
```
>>> if "foo" == "bar" or "baz" == "baz":
...  print "or baz equals baz"
```

c)
```
>>> if "":
...  print "empty string"
```

d)
```
>>> if 0:
...  print "zero"
```

e) Extra Credit (1/2 point)
```
>>> if []:
...  print "empty list"
```

6. Write the following code. Consider all of the code that you write in this question to be part of the same file or interactive Python session. (4 points)

a) Write a comment that says "Outputting the sum of two numbers."

b) Declare a variable named a and set it equal to 7.

c) Declare a variable named b and set it equal to 9.

d) In code, **print** the result of adding a plus b.

e) Extra Credit (1/2 point)
How do you write a multi line comment (hint - it's the same as writing a multi line string). Example code would be a sufficient answer.

7. Write a program that asks the user for a word; if the word is dog or cat, it translates the word into Spanish. (5 points)
   a) Print out "Give me a word to translate into Spanish".
   b) Get input from the user.
   c) If the word is "dog", the program will print out "perro".
   d) If the word is cat, the program will print out "gato".
   e) For any other word, the program will say "no se".
   f) Extra Credit (1 point)
   Modify the program above so that "cat" and "dog" will be translated regardless of the case ("Cat", "CAT", and "cat" will all be translated to "gato".

8. Create a function called shout that adds an exclamation point to a word. (3 points)
   a) Define a function called shout.
   b) It should take one parameter, word.
   c) Return the parameter, word, with an exclamation point appended to it.

9. Create a function that returns the cube of a number. (3 points)
   a) Define a function called cube.
   b) It should take one parameter, x.
   c) Return the cube of x.
   d) Extra Credit (1 point)
      A simple way of getting the cube of a number is multiplying the number by itself three times. What are two other ways of calculating the cube of a number (hint: one is an operator, the other is a function).