# CIS30A Week 2 Assignment: Quiz 1 Review

This assignment covers programming concepts in Chapter 1 – 7. Refer to notes and prior assignments and answer the following questions.

1. **Explain the difference between a compiler and an interpreter.**

The compiler translates and interprets the entire source code into machine language and executes it, while an interpreter translates the source code line-by-line into machine language and executes it. In other words, the interpreter outputs the results from the program. Only a compiler can produce that program written in assembly language or machine language.

1. **What is IDLE? How should you use it in Python programming?**

The IDLE is a development environment conducive to writing and running the programs. One should use the IDLE because it makes development of applications and/or running programs easier.

1. **Refer to the below program and answer the following questions:**

***print("I am 25 years old.") # display age***

1. What is the output of the program? - ***I am 25 years old.***
2. What is the comment in the program? ***# display age***
3. What is the purpose of print()? – To output at terminal what’s between parenthesis, such as a variable or string.
4. **Refer to the below Python statement and answer the following questions:**

***print("My favorite: ","food is pizza","color is red","place is the beach")***

1. What is used as a separator in the statement? – generally it is a space, but in our case a comma.
2. What happens when the separator is not used in the statement? – the print() function gets executed the same and without errors, but the output will have some words without spaces.

*My favorite: food is pizzacolor is redplace is the beach*

1. **Refer to the below Python program and answer the following questions:**

***print("I\’m learning Python")***

***print("I like scripting\n It is fun")***

***print("\tI enjoy programming")***

1. **Identify the escape characters in the statement(s).** - \
2. **What is the purpose of \ ?** – used to represent whitespace characters.
3. **What is the purpose of \r ?** – The ‘carriage return’ is the equivalent of pressing the Enter key on the keyboard, which returns a new line. Used with string statements.
4. **What is the purpose of \n?** – Also called ‘new line’, its purpose is to add in the output a visible new line, depending on its location.
5. **What is the output of the program?** –

*I\’m learning Python*

*I like scripting*

*It is fun*

*I enjoy programming*

1. **How you add a comment in a Python program? How do you add a multiline comment?**

For a one line comment, one can use #, but for a multiline one needs to use “”” “”” to surround the whole text.

1. **What happens when a runtime error occurs?**

Something has gone wrong with the program. This could be caused by system resources, or an operation that wasn’t able to run.

1. **Mike created a Python program that produces a wrong result. What type of error is Mike facing? What should Mike do?**

This could be a logical error. Mike needs to review his programming logic to find out where the issue is. Only Mike can find the issue. The interpreter would not know.

1. **Select the appropriate variable names from the following options:**
2. **user\_Account**
3. **userAccount**
4. 2020\_userAccount
5. #Account
6. **Given the following statements in a Python program:**

***name = "Jennifer"***

***age = 21***

***print(f"My name is {name} and my age is {age}")***

What is the output?

My name is Jennifer and my age is 21

1. **Determine the data type for the following:**
2. 880 - integer
3. -64.12 - negative integer float
4. 1037450968L - integer long
5. **What type of methods will return absolute value of the number?**

Abs() function.

1. Identify the error in the following program.

***shirt\_price = 14.96***

***print(math.floor(shirt\_price))***

The math.floor references a module ‘math’ that should be imported in the program, and a function floor() that is a component of the math module. By simply adding ‘import math’ to the top of the program, the issue goes away and the program resolves to: 14. The new program looks like so:

import math

shirt\_price = 14.96

print(math.floor(shirt\_price))

1. Determine the output of the following program:

***myList = [10, 90, 20, 80, 30]***

***highest\_value = max(myList)***

***print(highest\_value)***

90

1. Write a Python statement that displays the result of 46.

print (pow(4,6))

1. What is the purpose of randint() in the below program?

***import random***

***r2 = random.randint(-100, 0)***

***print(r2)***

The function’s purpose is to randomize in the output of integer numbers between -100 and 0.

1. Determine the output for the following statements.
2. 4\*5+10 = 30
3. 21+6/3 = 23
4. 111 % 10 = 1
5. 5\*\*4 = 625
6. 19//3 = 6
7. 37 <= 35 - False
8. Refer to the below statements and determine the program output.

***cust\_age = 75***

***if cust\_age >= 65:***

***print("You received senior discount!")***

***else:***

***print("You cannot receive senior discount!")***

You received senior discount!

1. Refer to the below program and determine the program output.

***letters = ["a", "b", "c", "d", "e"]***

***print(" ".join(letters))***

a b c d e

* ‘join’ takes the items in the variable ‘letters’ and joins them together in the output.

1. Refer to the below program and determine the program output.

***strng1 = "There are three dogs two cats two hamsters"***

***print(strng1.replace("two", "four", 2))***

There are three dogs four cats four hamsters.

‘two’ was replaced with ‘four’, for a max of 2 times.

1. Refer to the below program and determine the program output.

***client\_name = "Norma Smith"***

***print(client\_name.startswith("S"))***

The output will be **False**, because the startswith() program validates whether or not the client\_name variable value starts with the capital letter S. In this case, it does not.

1. Refer to the below program and determine the program output.

***user\_info = "JackBrown341"***

***print(user\_info.isalpha())***

isalpha()) returns True if the characters in the string are all in the alphabet and False otherwise. In this case because of ‘341’ numbers in the string the result will be **False**.