Critical Thinking

1.
   a) List four legal identifier names: myString, myInt, myDouble, myBoolean.
   b) List four illegal identifier names and explain why each is illegal:
   - String - Using the key word in the variable.
   - 0412Num - Starting with a number.
   - R&B - Contant the illegal characters.
   - My number - Contant space in the variable.

2.
   a) In two statements, declare a variable named *numBeads* and assign it the value 5
   - int myBeads;
   - myBeads = 5;

   b) In one statement, declare a variable named *numBeads* and assign it the value 5
   - int myBeads = 5;

3.
   a) What is the final value of *yourNumber* after the last statement executes.

```
int muNumber = 5;
int yourNumber = 4;
myNumber = yourNumber * 2;
yourNumber = myNumber + 5;
```

   - yourNumber = 13

   b) What is the final value of *yourNumber* after the last statement executes.

```
int myNumber;
int yourNumber = 4;
myNumber = yourNumber + 7;
yourNumber = myNumber;
```

   - yourNumber = 13

4. Determine the appropriate data type for each of the following values:
   a) The number of basketballs in the department - int
   b) The price of a basketball - double
   c) The number of players on a basketball team - int
   d) The average age of the players on the basketball team - double.
   e) Whether a basketball player has received a jersey of not - Boolean.
   f) The first initial of a basketball player's first name - String.

5.
   a) What is the difference between a primitive data type and an abstract data type?
   - Primitive data type is a data type that can store only a single piece of data. Primitive data types are also called built-in data types.
   - Abstract data type is a class. A data type that can store data and methods.

   b) What is the difference between a class and an object?
   - A class: Abstract data type.

- An object: A variable declared with a class.