

1. a) myVariable, num\_beads, Team5, x  
b)
  - 1number (Identifiers cannot start with a digit)
  - my variable (Identifiers cannot have spaces)
  - class (Keywords cannot be used as identifiers)
  - num! (Identifiers cannot have special characters other than \_ or \$)
2. a) int numBeads;  
numBeads = 5;  
b) int numBeads = 5;
3. a) What is the final value of yourNumber after the last statement executes?
  - The final value of yourNumber is 13b)
  - The final value of yourNumber is 11.
4. Determine the appropriate data type for each of the following values:
  - a) The number of basketballs in a department store.
    - int (A whole number count)
  - b) The price of a basketball.
    - double (Floating-point number for prices)
  - c) The number of players on a basketball team.
    - int (A whole number count)
  - d) The average age of the players on a basketball team.
    - double (An average can be a decimal)
  - e) Whether a basketball player has received a jersey or not.
    - boolean (True/False)
  - f) The first initial of a basketball player's first name.

- char (A single character)

5. a) primitive data type stores simple values like integers or characters directly like int, char, and boolean. In contrast, an abstract data type defines data structures or objects that can house multiple values or have complex behavior which can include things like ArrayList or custom-defined objects.

b) A class is a sort of template for creating objects. It defines the properties and methods common to all objects of that type. An object is an instance of a class, representing its own thing with its own separate state and behavior.

6. a) addPlayer(), removePlayer(), and calculateScore()

b) teamA, basketballTeam, homeTeam