Unit 1 AP Computer Science A Practice Exam
Primitive Data Types

<u>Section I – Multiple Choice</u>
Optional Time – 25 minutes
20 Questions

1) Which of the following data types would <u>best</u> represent the number of passengers on an airplane?

(A) Boolean
(B) Double
(C) Integer
(D) String

2) Which of the following data types would NOT be considered a primitive data type?

(A) String
(B) Boolean
(C) Integer
(D) Long

3) When a variable is declared _____, its value cannot be changed once it is initialized.

(A) constant
(B) final
(C) static
(D) boolean

4) When a variable is initialized, the variable is associated with a location in a computer's _____ that is used to hold its value.

(A) processor
(B) RAM
(C) graphics card
(D) CPU

5) Which of the following data types would <u>best</u> represent the position of a light switch with "on" and "off" as its only two states?

(A) Boolean
(B) Double
(C) String
(D) Integer

6) Which of the following are considered reference data types?

I. String
II. Boolean
III. Integer

(A) I only
(B) II only
(C) I and II
(D) II and III
(E) I, II, and III

7) Which of the following data types would best represent a student ID number that may have leading zeroes that must be included in the value?

(A) Boolean
(B) String
(C) Integer
(D) Double

8) What value is assigned to the variable "a" in the code below?

```
int a = 7 + 8;
```

(A) 15
(B) "7+8"
(C) 15.0
(D) An error will occur

9) What value is assigned to the variable "w" in the code below?

```
int w = (int) (7.0 * 2.5);
```

NOTE: This question was edited.

(A) 17.5
(B) 17
(C) 18
(D) An error will occur.

10) Which of the following is true about arithmetic operations?

  I.   An arithmetic operation that uses two integer values will evaluate to an integer value.
  II. It is impossible to add 1 to a variable without ever using the number 1 in a statement.
  III. An arithmetic operation that uses a double value will evaluate to a double value.

(A) I only
(B) II only
(C) I and II
(D) I and III
(E) I, II, and III

11) What value is assigned to the variable "y" in the code below?

```
int y = 14 % 4;
```

(A) 2
(B) 3
(C) 3.5
(D) 4

12) What value is assigned to the variable "z" in the code below?

```
int x = 4;
int y = 1 + x / 2;
int z = 0;
z += (y * 4);
```

(A) 12
(B) 8
(C) 10
(D) An error will occur

13) The +=, -=, *=, /=, and %= operators are known as _____ operators.

(A) compound assignment
(B) covalent assignment
(C) shorthand assignment
(D) increment assignment

14) The process of converting one data type to another is _____ a variable.

(A) casting
(B) reassigning
(C) initializing
(D) compounding

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Good luck!

15) Variable x of a double type can be to the nearest integer using which statement?

(A) `(int)x` for both positive and negative values of x.
(B) `(int)(x + 0.5)` for both positive and negative values of x.
(C) `(int)(x + 0.5)` for positive values of x, and `(int)(x - 0.5)` for negative values of x.
(D) `(int)(x + 1)` for both positive and negative values of x.

16) Which of the following represent the extrema (minima and maxima) of the possible values that can be stored as an integer?

I. `Integer.MIN_VALUE;`
II. `Integer.MAX_VALUE;`
III. 2,147,483,648

(A) I only
(B) II only
(C) I and II
(D) II and III
(E) I, II, and III

17) In random access memory, integers are given a maximum storage space of _____.

(A) 2 bytes
(B) 4 bytes
(C) 8 bytes
(D) 16 bytes

18) An attempt to divide an integer by 0 will result in which of the following exceptions?

(A) Stack overflow Exception
(B) Arithmetic Exception
(C) Infinite Loop Exception
(D) Type Exception

19) Which of the following is true about arithmetic in Java?

I. Arithmetic follows the order of operations in Java
II. The division of the integers as shown, 5 / 2, will result in the value of 2 because integer division truncates decimal numbers.
III. An integer overflow occurs in the following code: `Integer.MIN_VALUE - 2;`

(A) I only
(B) II only
(C) I and II
(D) II and III
(E) I, II, and III

20) Convert 36_{10} to a hexadecimal number (base 16).

(A) 24_{16}
(B) 00100100_{16}
(C) 22_{16}
(D) 44_{16}

END OF SECTION I

1) In the space below, create and initialize a variable represented with the name *myVar* that stores the number 13. Then, create and initialize a variable represented with the name *myVarTwo* that stores the value of *myVar* times 2.5 to the closest whole integer.

2)
    (a) In the space below, create and initialize the following variables and their values.

Variable Name	Value
scoreA	96.5
scoreB	86.4
scoreC	76.0
scoreD	100

    (b) Create and initialize two variables named *scoreAverage* and *scoreRange*, that calculate the average and range of the scores, respectively, using the same variables you created in part (a).

END OF SECTION II