

Unit 1 AP Computer Science A Practice Exam
Primitive Data Types

Section I – Multiple Choice

Optional Time – 25 minutes

20 Questions

- 1) Which of the following data types would best 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 best 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

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Good luck!

- 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 = 7.0 * 2.5;
```

- (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

- 15) Variable x of a double type can be rounded 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) I 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

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Good luck!

Section II – Free Response Section

Optional Time – 15 minutes

2 Questions

- 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.

<u>Variable Name</u>	<u>Value</u>
<i>scoreA</i>	96.5
<i>scoreB</i>	86.4
<i>scoreC</i>	76.0
<i>scoreD</i>	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

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