

1. Name the type of program that takes as its input a source program in one language and data for that program, then translates the source program one statement at a time and executes the translated statement. (3 points)
2. Assume that x, y, and z are numeric variables, already declared and initialized. Write the one statement which will call the max method from the Math class and assign the largest of x and y to variable z. (2 points)
3. List the six numeric types of Java in order from narrowest to widest. (3 points)
4. What is the 16 bit encoding scheme used for the char type in Java? (2 points)
5. Write the assignment statement for String s such that the output from
System.out.println(s);
produces the following line on the screen. (3 points)

item\fifteen

6. What Java keyword is used in a switch statement to prevent the execution of code from multiple cases? (2 points)
7. For each of the following possible identifiers, label it with a letter with the meaning shown in the following table: (5 points)

Letter	Meaning
A	invalid Java identifier
B	Java constant
C	Java variable or method name
D	Java class name
E	valid identifier, but does not follow any naming convention

Possible Identifier	Label
abraham%lincoln	
rexStout	
SAMWISE_GAMGEE	
1goodVariable	
onoMoToPoEia	

8. Show the output of the following code. (5 points)

```
System.out.println(2 * 5 + 2 + "Welcome" + 3 + 2);
```

9. Show the output of the following code. (5 points)

```
double x = 9.9;
int y = (int)x;
System.out.println("x is " + x + " and y is " + y);
```

10. Show the output of the following code. (5 points)

```
int x = 17;
System.out.println(((x < 10) || ((x > 20) && (x < 100))));
```

11. Show the output of the following code. (5 points)

```
System.out.println(14 + 9 / (7.0 - 5) - 10 / 4);
```

12. Complete the following code segment by writing the Java code to multiply y by z and assign this product to x. Pay attention to the variable types. (5 points)

```
short x = 0;
int y = 7;
long z = 3;
```

13. What is the output of the following code? (10 points)

```
int x = 3;
int y = 2;
if (x > 2)
    if (y > 2)
        System.out.println(x + y);
else
    System.out.println(x - y);

System.out.println(y);
```

14. Write a for loop to print every other upper case letter of the alphabet starting at 'B'. (15 points) In other words, your output is to be

BDFHJLNPRTVXZ

15. Write a Java application (a complete Java program) which will read an int value, a double value, and a String value from the keyboard using a Scanner object. If the int value is 0, your program will print the String value. If the int value is greater than 0, your program will print the int value. If the int value is negative, your program will print the double value. Your program will perform output using one or more methods of System.out. Do not include comments in this code. Do not write the import statement for this code. (15 points)