**44-542 Object Oriented Programming**

**Selection**

Find the output of each of the code segments below.

1. String message;

int a = 10;

if( a > 10)

{

message = "big";

}

else

{

message = "small";

}

System.out.println( message );

1. Assume the variable number has been declared to be of type int. The following Java code segment contains a nested if statement. Use the code segment to answer the following questions.

if (number < 100)

{

number = number \* 2;

}

else

{

if (number > 500)

{

number = number \* 3;

}

else

{

number = number \* 5;

}

}

System.out.println( “Number: “ + number);

Determine the output assuming number contains each of the following values:

(a) (b) (c)

number = 90; number = 1000; number = 200;

Output: Output: Output:

1. Given the int variables x, y and z, where x is 3, y is 7, and z is 6, what is the output for each of the following Java code segments?
2. if (x < 3)

System.out.println( “The value of x is “ + x );

System.out.println(“The value of x is ” + x);

Output:

1. if (x != 1)

{

System.out.println( “The value of x is “ + x );

}

else

{

System.out.println( “The value of y is “ + y );

}

Output:

1. if (y + 3 < x + z)

{

System.out.println( “The value of x is “ + x );

System.out.println( “The value of z is “ + z );

}

else

{

System.out.println( “The value of y is “ + y );

}

Output:

1. Evaluate the following Java code segments and determine the output.

(a) Given that examScore contains 60, determine the output

if (examScore >= 60)

{

System.out.println( “pass“ );

}

else

{

System.out.println( “fail” );

}

Output:

(b) Given that examScore contains 59, determine the output

if (examScore >= 60)

{

System.out.println( “pass“ );

}

else

{

System.out.println( “fail” );

}

Output:

1. Evaluate the following Java code segments and determine the output.

(a) int sales = 10000;

int target = 12000;

float bonus;

if (sales <= target)

{

System.out.println( “Needs improvement“ );

bonus = 0.0f;

System.out.println( “Your bonus is “ + bonus );

}

else

{

System.out.println( “Great performance!“ );

bonus = .20f \* sales;

System.out.println( “Your bonus is “ + bonus );

}

Output:

(b) int sales = 30000;

int target = 20000;

float bonus;

if (sales <= target)

{

System.out.println( “Needs improvement“ );

bonus = 0.0f;

System.out.println( “Your bonus is “ + bonus );

}

else

{

System.out.println( “Great performance!“ );

bonus = .20f \* sales;

System.out.println( “Your bonus is “ + bonus );

}

Output:

1. The following Java code segment contains a nested if statement.

if (average >= 60)

{

if (average >= 70)

{

System.out.println( “Satisfactory“ );

}

else

{

System.out.println(“Needs improvement” );

}

}

else

{

System.out.println( “Failing“ );

}

Determine the output assuming average contains each of the following values:

(a) (b) (c)

average = 59; average = 75 average = 65

Output: Output: Output:

1. The following Java code segment contains a cascaded if statement.

if (n == 3)

{

System.out.println ( “Three”);

}

else if (n == 4)

{

System.out.println( “Four”);

}

else if (n == 5)

{

System.out.println( “Five”);

}

else

{

System.out.println( “All other numbers” );

}

Determine the output assuming n contains each of the following values:

(a) (b) (c)

n = 3; n = 4 n = 10

Output: Output: Output:

1. Find the output of the following code segment.

**int rainfall;**

**rainfall = 1;**

**if(rainfall == 1)**

**{**

**System.out.println(rainfall + " inch has fallen");**

**} else**

**{**

**System.out.println(rainfall + " inches have fallen");**

**}**

**rainfall = 2;**

**if(rainfall == 1)**

**{**

**System.out.println(rainfall + " inch has fallen");**

**} else**

**{**

**System.out.println(rainfall + " inches have fallen");**

**}**

Output:

1. Rewrite the above code segment, using the conditional (ternary) operator.