Exam

Name_____

MULTIPLE CHOICE.  Choose the one alternative that best completes the statement or answers the question.

1) How many times will the following code print "Welcome to Java"?                    1) _____

```
int count = 0;
while (count < 10)
{
  System.out.println("Welcome to Java");
  count++;
}
```
   A) 0                B) 8                C) 9                D) 11                E) 10

2) Analyze the following code.                                                          2) _____

```
int count = 0;
while (count < 100)
{
  // Point A
  System.out.println("Welcome to Java!");
  count++;
  // Point B
}
  // Point C
```
   A) count < 100 is maybe false at Point C
   B) count < 100 is always true at Point A
   C) count < 100 is always true at Point C
   D) count < 100 is always false at Point B
   E) count < 100 is always true at Point B

3) What is the output for y?                                                            3) _____

```
int y = 0;
for (int i = 0; i<10; i++)
{
  y = y + i;
}
System.out.println(y);
```
   A) 10                B) 11                C) 45                D) 12                E) 13

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4) What is i after the following for loop?                                          4) _____

```
int y = 0;
for (int i = 0; i<10; i++)
{
  y = y + i;
}
```
   A) 9                    B) 11                    C) 10                    D) undefined

5) Analyze the following fragment:                                                  5) _____

```
double sum = 0;
double d = 0;
while (d != 10.0) {
  d += 0.1;
  sum += sum + d;
}
```
   A) The program does not compile because sum and d are declared double, but assigned with
      integer value 0.
   B) The program may not stop because of the phenomenon referred to as numerical inaccuracy
      for operating with floating-point numbers.
   C) After the loop, sum is 0 + 0.1 + 0.2 + 0.3 + ... + 1.9
   D) The program never stops because d is always 0.1 inside the loop.

6) Analyze the following code:                                                      6) _____

```
public class Test
{
  public static void main (String args[ ])
  {
    int i = 0;
    for (i = 0; i < 10; i++);
        System.out.println(i + 4);
  }
}
```
   A) The for loop in this program is different as for (i = 0; i < 10; i++) { }; System.out.println(i + 4);
   B) The program has a compile error because of the semicolon (;) on the for loop line.
   C) The program compiles despite the semicolon (;) on the for loop line, and displays 14.
   D) The program compiles despite the semicolon (;) on the for loop line, and displays 4.

7) What is the number of iterations in the following loop:                          7) _____

```
for (int i = 1; i < n; i++) {
  // iteration
}
```
   A) 2*n                   B) n - 1                 C) n                     D) n + 1

8) What is the number of iterations in the following loop:    8) _____

```
for (int i = 1; i <= n; i++) {
  // iteration
 }
```

A) n                    B) n + 1                C) 2*n                D) n - 1

9) Suppose your method does not return any value, which of the following keywords can be used as a    9) _____
   return type?
   A) double
   B) int
   C) public
   D) void
   E) None of the above

10) The signature of a method consists of _____.    10) _____
    A) return type, method name, and parameter list
    B) parameter list
    C) method name
    D) method name and parameter list

11) This is a control structure that causes a statement or group of statements to repeat.    11) _____
    A) Loop                B) Block                C) Prefix mode            D) Body

12) If a loop does not contain within itself a way to terminate, it is called a(n)    12) _____
    A) infinite Loop        B) While Loop            C) Do-While Loop          D) For Loop

13) Each repetition of a loop is known as what?    13) _____
    A) An Iteration         B) A Cycle               C) An Execution           D) A Lap

14) What will be the value of x after the following code is executed?    14) _____

```
int x = 10;
while (x < 100)
{
   x = x+ 10;
}
```

A) 100                            B) 110
C) 90                             D) This is an infinite loop

15) Arguments to methods always appear within _____.    15) _____
    A) parentheses                    B) quotation marks
    C) curly braces                   D) brackets

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16) What will be the value of x after the following code is executed?                    16) _____

```
int x = 10, y = 20;
while (y < 100)
{
   x = x + y;
}
```

    A) This is an infinite loop                         B) 90
    C) 110                                  D) 210

17) This type of loop will always be executed at least once.                    17) _____
    A) post-test loop       B) pre-test loop       C) for loop       D) sentinel loop

18) This type of loop allows the user to decide the number of iterations.                    18) _____
    A) User Controlled loop              B) Counter-controlled loop
    C) Dynamically executed loop       D) Infinite loop

19) In the following code, what values could be read into number to terminate the while loop?                    19) _____

```
Scanner keyboard = new Scanner(System.in);
System.out.print("Enter a number:  ");
int number = keyboard.nextInt();
while (number < 100 && number > 500)
{
   System.out.print("Enter another number:  ");
   number = keyboard.nextInt();
}
```

    A) The boolean condition can never be true        B) Numbers less than 100 or greater than 500
    C) Numbers in the range 100 - 499               D) Numbers in the range 100 - 500

20) What will be the value of x after the following code is executed?                    20) _____

```
int x = 10;
do
{
   x = x *20;
}
while (x > 5);
```

    A) This is an infinite loop
    B) 10
    C) 200
    D) The loop will not be executed, the initial value of x > 5

21) In the following code, what values could be read into `number` to terminate the `while` loop?　　　21) _____

```
Scanner keyboard = new Scanner(System.in);
System.out.print("Enter a number:  ");
int number = keyboard.nextInt();
while (number < 100 || number > 500)
{
   System.out.print("Enter another number:  ");
   number = keyboard.nextInt();
}
```

A) Numbers in the range 100 - 500　　　　B) Numbers in the range 100 - 499
C) Numbers greater than 500　　　　　　D) Numbers less than 100

22) What will be the value of `x` after the following code is executed?　　　22) _____

```
int x = 10;
do
{
   x = x * 20;
}
while (x < 5);
```

A) 200
B) 10
C) Infinite loop
D) The loop will not be executed, the initial value of x > 5

23) Given the following method　　　23) _____

```
static void nPrint(String message, int n) {
 while (n > 0) {
   System.out.print(message);
   n--;
 }
}
```

What is the printout of the call nPrint('a', 4)?
A) aaaaa　　　　　B) invalid call　　　　　C) aaa　　　　　D) aaaa

24) A `for` loop normally performs which of these steps?　　　24) _____
A) initializes a control variable to a starting value
B) tests the control variable by comparing it to a maximum/minimum value and terminate when the variable reaches that value
C) updates the control variable during each iteration
D) all of the above

25) This type of loop is ideal in situations where the exact number of iterations is known.　　　25) _____
A) for loop　　　　　B) while loop　　　　　C) do-while loop　　　　　D) if loop

26) This type of loop is ideal in situations where the exact number of iterations is known.　　　26) _____
A) for loop　　　　　B) do-while loop　　　　　C) while loop　　　　　D) if loop

27) Only a FOR and Do-While loops can be decremented.  
    A) true                           B) false                                    27) _____

28) Which of the following is NOT a loop.  
    A) while loop       B) for loop            C) do-while loop       D) if loop            28) _____

29) The folowing is a valid For statement:  for(int x=1; x = 10; x++)  
    A) true                           B) false                                    29) _____

30) What will be printed after the following code is executed?

```
for (int number = 5; number <= 15; number +=3)
   System.out.print(number + ", ");
```

    A) 5, 8, 11, 14,                              B) 5, 8, 11, 14, 17,  
    C) 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15,       D) This is an invalid for statement     30) _____

31) A loop that repeats a specific number of times is known as a(n)  
    A) Counter-controlled loop              B) Sentinel loop  
    C) Conditional loop                      D) Infinite loop                    31) _____

32) In the for loop, the control variable cannot be initialized to a constant value and tested against a constant value.  
    A) true                           B) false                                  32) _____

33) In a for statement, the control variable can only be incremented.  
    A) true                           B) false                                  33) _____

34) This is a value that signals when the end of a list of values has been reached.  
    A) Sentinel            B) Final Value            C) Terminal Value       D) End Value       34) _____

35) A variable defined inside a method is referred to as _____.  
    A) a local variable                   B) a method variable  
    C) a block variable                  D) a global variable                    35) _____