Started on	Thursday, 7 December 2023, 2:29 PM
State	Finished
Completed on	Thursday, 7 December 2023, 3:05 PM
Time taken	36 mins 31 secs
Grade	**20.33** out of 30.00 (**67.78**%)

Question **1**

Complete

Mark 1.00 out of 1.00

Flag question

You are developing a game, and you need to break out of a loop once a certain condition is met.

Question: Identify the code snippet that correctly uses a `break` statement to exit a loop after printing the message "Game Over" five times.

Select one:

a.

```
int i = 0;
do {
    System.out.println("Game Over");
    if (i == 4) break;
    i++;
} while (i < 5);
```

b.

```
for (int i = 0; i < 10; i++) {
    if (i == 5) break;
    System.out.println("Game Over");
}
```

c.

```
int i = 0;
while (i < 5) {
    System.out.println("Game Over");
    i++;
}
```

d.

```
int i = 0;
while (true) {
    System.out.println("Game Over");
    i++;
    if (i == 5) break;
}
```

Your answer is correct.

Question **2**

Complete

Mark 1.00 out of 1.00

Flag question

A program needs to skip odd numbers and only print even numbers.

Question: Guess the output of the following code snippet.

```
```

```
for (int i = 1; i <= 5; i++) {
    if (i % 2 != 0) {
        continue;
    }
    System.out.println(i);
}
```

Select one:

a.
```
2 3 4 5
```

b.
```
2 4
```

c.
```
1 2 3 4 5
```

d.
```
1 3 5
```

Your answer is correct.

Question **3**

Complete

Mark 1.00 out of 1.00

Flag question

A program needs to execute a block of code at least once and then repeat it based on a condition. **Question:** Select the snippet that correctly represents a do-while loop in Java.

Select one:

a.
```
do {
   action();
} until (condition);
```

b.
```
do action();
while (condition);
```

c.
```
do {
   action();
} while (condition);
```

d.
```
do (condition) {
   action();
} while;
```

Your answer is correct.

Question **4**

Complete

Mark 1.00 out of 1.00

Flag question

A program is designed to run indefinitely until a shutdown signal is received.
Question: Which of the following represents an infinite loop in Java?

Select one:

a.
```
for (;;) { listenForShutdown(); }
```

b. All of the above

c.
```
do { listenForShutdown(); } while (true);
```

d.
```
while (true) { listenForShutdown(); }
```

Your answer is correct.

Question **5**

Complete

Mark 0.00 out of 1.00

Flag question

You are writing a function that finds if the digit '5' is present in an integer.

Question: Which method implementation correctly determines if the number contains the digit '5'?

Select one or more:

a.
```
public static boolean containsFive(int number) {
    return String.valueOf(number).contains("5");
}
```

b. None of the options are correct

c.
```
public static boolean containsFive(int number) {
    int digit;
    do {
        digit = number % 10;
        if (digit == 5) {
            return true;
        }
        number /= 10;
    } while (number > 0);
    return false;
}
```

d.
```
public static boolean containsFive(int number) {
    for (int i = number; i > 0; i /= 10) {
        if (i % 10 == 5) {
            return true;
        }
    }
    return false;
}
```

e.

```
public static boolean containsFive(int number) {
    while (number > 0) {
        if (number % 10 == 5) {
            return true;
        }
        number /= 10;
    }
    return false;
}
```

Your answer is incorrect.

Question **6**

Complete

Mark 1.00 out of 1.00

Flag question

During code review, you find a piece of code that seems to be an infinite loop.

Question: Identify the snippet that would cause an infinite loop.

Select one:

a.

```
int i = 5;
while (i <= 50) {
    System.out.println(i);
    i += 5;
}
```

b.

```
int i = 10;
while (i <= 100) {
    System.out.println(i);
    i += 10;
}
```

c.

```
int i = 1;
while (i != 10) {
    System.out.println(i);
    i += 2;
}
```

d.

```
int i = 0;
while (true) {
    System.out.println("Hello");
}
```

Your answer is correct.

Question **7**

Complete

Mark 0.00 out of 1.00

Flag question

You are building a calculator app that includes a factorial function.

Question: Identify the method that correctly calculates the factorial of a given number using loops.

Select one or more:

a.

```
public static int factorial(int n) {
    int result = 1;
    for (int i = 1; i <= n; i++) {
        result *= i;
    }
    return result;
}
```

b.

```
public static int factorial(int n) {
    int result = 1, i = n;
    do {
        result *= i--;
    } while (i > 0);
    return result;
}
```

c.

```
public static int factorial(int n) {
    if (n == 0) return 1;
    return n * factorial(n - 1);
}
```

d.

```
public static int factorial(int n) {
    int result = 1, i = 1;
    while (i <= n) {
        result *= i++;
    }
    return result;
}
```

Your answer is incorrect.

Question **8**

Complete

Mark 0.00 out of 1.00

Flag question

You need to implement a method that will execute at least once regardless of the condition.

Question: Choose the correct implementation using a `do-while` loop that prints "Hello World" at least once.

Select one or more:

a.

```
do {
    System.out.println("Hello World");
} while (true);
```

b.

```
while (false) {
    System.out.println("Hello World");
}
```

c.

```
do {
    System.out.println("Hello World");
    break;
} while (true);
```

d.

```
do {
    System.out.println("Hello World");
} while (false);
```

Your answer is incorrect.

Question **9**

Complete

Mark 1.00 out of 1.00

Flag question

A code challenge requires you to reverse the digits of a given number.

Question: Which method correctly reverses the digits of an integer?

Select one:

a. None of the options are correct

b.

```
public static int reverseNumber(int number) {
    int reversed = 0;
    for (; number != 0; number /= 10) {
        reversed = (reversed * 10) + (number % 10);
    }
    return reversed;
}
```

c.

```
public static int reverseNumber(int number) {
    int reversed = 0, remainder;
    do {
        remainder = number % 10;
        reversed = reversed * 10 + remainder;
        number /= 10;
    } while (number > 0);
    return reversed;
}
```

d.

```
public static int reverseNumber(int number) {
    int reversed = 0;
    while (number != 0) {
        reversed = reversed * 10 + number % 10;
        number /= 10;
    }
    return reversed;
}
```

e. All options are correct

f.

```
public static int reverseNumber(int number) {
    StringBuilder sb = new StringBuilder(String.valueOf(number));
    return Integer.parseInt(sb.reverse().toString());
}
```

Your answer is correct.

Question **10**

Complete

Mark 1.00 out of 1.00

Flag question

You've found a bug in a program where the loop control variable is not being updated correctly.

Question: Choose the faulty code snippet where the loop control variable is incorrectly updated, leading to a potential infinite loop.

Select one:

a.

```
int i = 10;
while (i > 0) {
    System.out.println(i);
    i--;
}
```

b.

```
int i = 0;
while (i < 10) {
    System.out.println("Counting: " + i);
}
```

c.

```
for (int i = 0; i < 10; i += 2) {
    System.out.println("Even number: " + i);
}
```

d.

```
int i = 1;
do {
    System.out.println("Number: " + i);
    i = i * 2;
} while (i < 100);
```

Your answer is correct.

Question **11**

Complete

Mark 1.00 out of 1.00

Flag question

A developer writes a nested loop to process a matrix.

Question: Select the code snippet that correctly uses nested loops to process a 3x3 matrix.

Select one:

a.

```
for (int i = 0; i < 3; i++)
   for (int j; j < 3; j++)
      process(matrix[i][j]);
```

b.

```
for (int i = 0; i < 3; i++) {
   for (int j = 0; j < 3; j++) {
      process(matrix[i][j]);
   }
}
```

c.

```
int i = 0;
   while (i < 3) {
      int j = 0;
      while (j < 3) {
         process(matrix[i][j]);
         j++;
      }
   i++;
}
```

d.

```
for (int[] row : matrix) {
   for (int val : row) {
      process(val);
   }
}
```

Your answer is correct.

Question **12**

Complete

Mark 0.00 out of 1.00

Flag question

You need to create an array to store temperatures for a week.

Question: How would you correctly declare and initialize an array in Java for this purpose?

Select one or more:

a.

```
int[] temperatures = new int[7];
```

b.

```
int[] temperatures = {0, 0, 0, 0, 0, 0, 0};
```

c.

```
int temperatures = new int[7];
```

d.

```
int temperatures[] = new int[7];
```

Your answer is incorrect.

Question **13**

Complete

Mark 0.00 out of 1.00

Flag question

A program needs to iterate over an array of integers to sum all its elements.

Question: Which line correctly uses the array's length to set the loop's boundary?

Select one:

a.

```
for (int i = 1; i <= arr.length(); i++)
```

b.

```
for (int i = 0; i < arr.length; i++)
```

c.

```
for (int i = 0; i < arr.length - 1; i++)
```

d.

```
for (int i = 0; i <= 10; i++)
```

Your answer is incorrect.

Question **14**

Complete

Mark 0.00 out of 1.00

Flag question

You have an array of daily sales figures and need to print the sales of the third day.

Question: Select the correct way to access the third element in the array `int[] sales = {150, 220, 300, 250, 400};`.

Select one or more:

a.

```
System.out.println(sales[2]);
```

b.

```
System.out.println(sales[3]);
```

c.

```
System.out.println(sales[3-1]);
```

d.

```
System.out.println(sales[2+1]);
```

Your answer is incorrect.

Question **15**

Complete

Mark 0.33 out of 1.00

Flag question

A search algorithm stops once a target item is found.
Question: Select the snippet that uses a break statement correctly.

Select one:

a.

```
int i = 0;
while (array[i] != target) {
   i++;
   if (i == array.length) {
      break;
   }
}
```

b.

```
for (int i = 0; i < array.length; i++) {
   if (array[i] == target) {
      break;
   }
}
```

c.

```
do {
   if (findTarget()) {
      break;
   }
} while (true);
```

d. All of the above

Your answer is partially correct.

Question **16**

Complete

Mark 0.00 out of 1.00

Flag question

A scoreboard tracks high scores and you need to find the highest score.

Question: Which method correctly finds the maximum score in an array `int[] scores = {75, 88, 92, 67, 100};`?

Select one or more:

a.

```
public static int findMax(int[] array) {
    int max = 0;
    for (int i = 0; i < array.length-1; i++) {
        max = Math.max(max, array[i]);
    }
    return max;
}
```

b.

```
public static int findMax(int[] array) {
    int max = array[0];
    for (int i = 1; i < array.length; i++) {
        if (array[i] > max) {
            max = array[i];
        }
    }
    return max;
}
```

c.

```
public static int findMax(int[] array) {
    Arrays.sort(array);
    return array[array.length - 1];
}
```

d.

```
public static int findMax(int[] array) {
    int max = Integer.MIN_VALUE;
    for (int j : array) {
        max = Math.max(max, j);
    }
    return max;
}
```

Your answer is incorrect.

Question **17**

Complete

Mark 1.00 out of 1.00

Flag question

A user's input is being stored in an array and you need to update the fifth element with a new value.

Question: Select the correct statement to update the fifth element in `int[] userInput = new int[10];` to 99.

Select one:

a.
```
userInput[5] = 99;
```

b.
```
userInput[4]++;
```

c.
```
userInput[4] = 99;
```

d.
```
userInput[5]--;
```

Your answer is correct.

Question **18**

Complete

Mark 0.00 out of 1.00

Flag question

An array contains a sequence of integers, and you need to calculate the sum of even numbers.

Question: Which snippet sums only the even numbers in `int[] numbers = {1, 2, 3, 4, 5, 6};`?

Select one or more:

a.
```
int sum = 0;
for (int number : numbers) {
    if (number % 2 == 0) {
        sum += number;
    }
}
```

b.
```
int sum = IntStream.of(numbers).filter(n -> n % 2 == 0).sum();
```

c.
```
int sum = 0;
for (int i = 0; i < numbers.length; i += 2) {
    sum += numbers[i];
}
```

d.

```
int sum = 0;
for (int i = 0; i < numbers.length; i++) {
    if (numbers[i] % 2 == 0) {
        sum += numbers[i];
    }
}
```

Your answer is incorrect.

Question **19**

Complete

Mark 1.00 out of 1.00

Flag question

A developer needs to iterate over an array of integers.
Question: Choose the code snippet that correctly iterates over an array using a for loop.

Select one:

a.

```
for (i = 0; i < array.length; i++) { process(array[i]); }
```

b.

```
for i in range(0, array.length): process(array[i])
```

c.

```
for (int i; i < array.length; i++) { process(array[i]); }
```

d.

```
for (int i = 0; i < array.length; i++) { process(array[i]); }
```

Your answer is correct.

Question **20**

Not answered

Marked out of 1.00

Flag question

You need to create a backup of an array before performing operations on it.

Question: Which statement correctly creates a copy of `int[] original = {5, 10, 15, 20};`?

Select one or more:

a.

```
int[] backup = original;
```

b.

```
int[] backup = original.clone();
```

c.

```
int[] backup = new int[original.length];
System.arraycopy(original, 0, backup, 0, original.length);
```

d.

```
int[] backup = Arrays.copyOf(original, original.length);
```

Your answer is incorrect.

Question **21**

Correct

Mark 5.00 out of 5.00

Flag question

You're given an array of integers, and you need to calculate the sum of all the even numbers in this array.

Question: Write a method **sumOfEvenNumbers** that takes an array of integers and returns the sum of all the even numbers in the array.

Answer: (penalty regime: 0 %)

Reset answer

```
/*
  DON'T WRITE any main method ANYWHERE
  DON'T WRITE ANY READING / PRINTING STATEMENTS, IF NOT ASKED
  YOU CAN WRITE YOUR OWN METHODS, IF NEEDED
*/
// Write your code below this line
public int sumOfEvenNumbers(int []array){
    int sum=0;;
    for(int values:array){
        if(values%2==0){
            sum+=values;
        }
    }return sum;
}
```

	Test	Expected	Got	
✔	`System.out.println(sumOfEvenNumbers(new int[]{1, 2, 3, 4, 5}));`	6	6	✔
✔	`System.out.println(sumOfEvenNumbers(new int[]{10, 23, 3, 4, 15}));`	14	14	✔
✔	`System.out.println(sumOfEvenNumbers(new int[]{0, 2, 3}));`	2	2	✔
✔	`System.out.println(sumOfEvenNumbers(new int[]{2, 4, 6, 8, 10}));`	30	30	✔

Passed all tests! ✔

Correct

Marks for this submission: 5.00/5.00.

Question **22**

Correct

Mark 5.00 out of 5.00

Flag question

In a survey of favorite numbers, you need to find out how often a particular number appears.

Question: Write a method **countOccurrences** that takes an array of integers and an integer representing the number to find. The method should return the count of occurrences of that number in the array.

Answer: (penalty regime: 0 %)

Reset answer

```java
/*
  DON'T WRITE any main method ANYWHERE
  DON'T WRITE ANY READING / PRINTING STATEMENTS, IF NOT ASKED
  YOU CAN WRITE YOUR OWN METHODS, IF NEEDED
*/
// Write your code below this line


public int countOccurrences(int []array,int target){
    int count=0;
    for(int i=0;i<array.length;i++){
        if(target==array[i]){
            count++;
        }

    }return count;

}

```

	Test	Expected	Got	
✔	`System.out.println(countOccurrences(new int[]{1, 2, 3, 4, 5, 2}, 2));`	2	2	✔
✔	`System.out.println(countOccurrences(new int[]{10, 23, 3, 4, 15, 23}, 23));`	2	2	✔
✔	`System.out.println(countOccurrences(new int[]{0, 2, 3, 2, 2}, 2));`	3	3	✔
✔	`System.out.println(countOccurrences(new int[]{1, 3, 5, 1, 1}, 1));`	3	3	✔
✔	`System.out.println(countOccurrences(new int[]{2, 4, 6, 8, 10}, 7));`	0	0	✔

Passed all tests! ✔

Correct

Marks for this submission: 5.00/5.00.

Finish review