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// Question 1

public static void question1() {

System.out.println("Question 1:");

int x = 5, y = 3, z;

if (x > y) {

if (y > 0) {

z = x / y; // 5/3 = 1 (integer division)

} else {

z = x \* y;

}

} else {

z = 0;

}

System.out.println("Output: " + z); // Answer: 1 (option b)

System.out.println();

}

// Question 2

public static void question2() {

System.out.println("Question 2:");

int x = 5;

if (x > 0 && x % 2 == 1) { // Answer: option a

System.out.println("Positive odd");

} else {

System.out.println("Other");

}

System.out.println();

}

// Question 3

public static void question3() {

System.out.println("Question 3:");

int n = 2;

switch (n) {

case 1:

System.out.print("One ");

break;

case 2:

n = n + 1;

System.out.print("Two ");

break; // Break prevents fall-through

case 3:

System.out.print("Three ");

break;

default:

System.out.print("Other ");

}

System.out.println(); // Answer: "Two" (option a)

System.out.println();

}

// Question 4

public static void question4() {

System.out.println("Question 4:");

int x = 5, y = 10;

if (!(x > 0 && y < 15)) { // NOT (true AND true) = NOT true = false

System.out.println(x + y);

} else {

System.out.println(x \* y); // This executes: 5 \* 10 = 50

}

System.out.println();

}

// Question 5

public static void question5() {

System.out.println("Question 5:");

int score = 85;

if (score >= 90) {

System.out.println("A");

} else if (score >= 80) { // Answer: >= (option c)

System.out.println("B");

} else {

System.out.println("C");

}

System.out.println();

}

// Question 6

public static void question6() {

System.out.println("Question 6:");

int sum = 0;

for (int i = 1; i <= 5; i++) {

sum = sum + i; // 1+2+3+4+5 = 15

}

System.out.println("Sum: " + sum); // Answer: 15 (option b)

System.out.println();

}

// Question 7

public static void question7() {

System.out.println("Question 7:");

int sum = 0;

for (int i = 1; i <= 3; i++) {

for (int j = 1; j <= i; j++) {

sum = sum + j;

}

}

// i=1: j=1, sum=1

// i=2: j=1,2, sum=1+1+2=4

// i=3: j=1,2,3, sum=4+1+2+3=10

System.out.println("Sum: " + sum); // Answer: 10 (option b)

System.out.println();

}

// Question 8

public static void question8() {

System.out.println("Question 8:");

for (int i = 1; i <= 5; i++) {

if (i == 3) {

continue

}

System.out.print(i + " ");

}

System.out.println();

System.out.println();

}

// Question 9

public static void question9() {

System.out.println("Question 9:");

int value = 2;

int sum = 0;

while (value <= 10) {

sum = sum + value;

value = value + 2;

}

System.out.println("Sum: " + sum);

System.out.println();

}

// Question 10

public static void question10() {

System.out.println("Question 10:");

int count = 0;

for (int i = 1; i <= 3; i++) {

for (int j = 1; j <= 2; j++) {

count = count + 1; // 3 iterations \* 2 iterations = 6

}

}

System.out.println("Count: " + count);

System.out.println();

}