**CSE 110: Programming Language 1**

**Spring 2008**

**Practice Problems from Lecture 3-5 (Characteristics of JAVA, Keywords and Identifiers, Operators, Control statements)**

**1. Change the following java code so that the “amount” of money is split into 100, 50, 20, 10, 5, 2 and 1 taka bills or coins. The output would be:**

**3 1 1**

**1 1 1 1**

**public class MoneySplit{**

**public static void main(String[] args){**

**int oneTaka = 0, twoTaka = 0, fiveTaka = 0, tenTaka = 0;**

**int twentyTaka = 0, fiftyTaka = 0, hundredTaka = 0;**

**int amount = 388;**

**… … …**

**… ... …**

**System.out.println(hundredTaka + " " + fiftyTaka + " " + twentyTaka);**

**System.out.println(tenTaka + " " + fiveTaka + " " + twoTaka + " " + oneTaka);**

**}**

**2. Consider the following code:**

|  |  |
| --- | --- |
| **1** | **public class quiz** |
| **2** | **{** |
| **3** | **public static void main(String args[])** |
| **4** | **{** |
| **5** | **int x = 0, y =0;** |
| **6** | **int sum = 0;** |
| **7** | **while (x < 10){** |
| **8** | **y = x - 3;** |
| **9** | **while (y < 3){** |
| **10** | **sum = (sum % 2) + x - y \* 2 ;** |
| **11** | **System.out.println(sum);** |
| **12** | **y = y + 1;** |
| **13** | **}** |
| **14** | **if (x > 5){** |
| **15** | **x++;** |
| **16** | **}else{** |
| **17** | **x += 2;** |
| **18** | **}** |
| **19** | **}** |
| **20** | **}** |
| **21** | **}** |

**3. Consider the following code:**

|  |  |
| --- | --- |
| **1** | **public class quizb** |
| **2** | **{** |
| **3** | **public static void main(String args[])** |
| **4** | **{** |
| **5** | **int x = 0, y =0;** |
| **6** | **int sum = 0;** |
| **7** | **while (x < 10){** |
| **8** | **y = x - 3;** |
| **9** | **while (y < 3){** |
| **10** | **sum = (sum % 3) + x - y \* 3 ;** |
| **11** | **System.out.println(sum);** |
| **12** | **y = y + 1;** |
| **13** | **}** |
| **14** | **if (x > 5){** |
| **15** | **x++;** |
| **16** | **}else{** |
| **17** | **x += 2;** |
| **18** | **}** |
| **19** | **}** |
| **20** | **}** |
| **21** | **}** |

**What are the values of sum that will be printed in line 11?**

**4. Consider the following code:**

|  |  |
| --- | --- |
| **1** | **public class Quiz5** |
| **2** | **{** |
| **3** | **public static void main(String args[])** |
| **4** | **{** |
| **5** | **String test = "";** |
| **6** | **int i = 0, j = 0, k = 15;** |
| **7** | **while (i < 5){** |
| **8** | **test = "-->";** |
| **9** | **j = --k;** |
| **10** | **while (j > 10 ){** |
| **11** | **test = test + i + j;** |
| **12** | **System.out.println(test);** |
| **13** | **j--;** |
| **14** | **}** |
| **15** | **i++;** |
| **16** | **}** |
| **17** | **}** |
| **18** | **}** |

**What are the values of “test” that will be printed in line 12?**

**5. Consider the following code:**

|  |  |
| --- | --- |
| **1** | **public class Quiz5b** |
| **2** | **{** |
| **3** | **public static void main(String args[])** |
| **4** | **{** |
| **5** | **String test = "";** |
| **6** | **int i = 2, j = 0, k = 18;** |
| **7** | **while (i < 7){** |
| **8** | **test = "-->";** |
| **9** | **j = --k;** |
| **10** | **while (j > 13 ){** |
| **11** | **test = test + i + j;** |
| **12** | **System.out.println(test);** |
| **13** | **j--;** |
| **14** | **}** |
| **15** | **i++;** |
| **16** | **}** |
| **17** | **}** |
| **18** | **}** |

**What are the values of “test” that will be printed in line 12?**

**6. State which of the followings are legal variable names in Java and which are not (write True for legal and False for illegal).**

|  |  |
| --- | --- |
| **\_n(3)m** | False |
| **U.S.A.** | False |
| **amin Ullah** | False |
| **66Mohakhali** | False |
| **X23** | True |
| **Dr. Yunus** | False |

**7. What is the value of each of the following arithmetic expressions in Java?**

|  |  |
| --- | --- |
| **5 % 3** | 2 |
| **5.0 / 3** | 1.6666666666666667 |
| **"23" + 3 + 4** | "2334" |
| **4.0+2.0\*(5.0+4.0/3.0)** | 16.666666666666664 |
| **4-(5+4/3)/3.0%2** | 4.0 |

|  |  |
| --- | --- |
| **7 % 3** | 1 |
| **7.0 / 3** | 2.3333333333333335 |
| **"99" + 3 + 4** | "9934" |
| **6.0+2.0\*(5.0+4.0/3.0)** | 18.666666666666664 |
| **6-(5+4/3)/3.0%2** | 6.0 |

**8. Consider the following code:**

|  |  |
| --- | --- |
| **1** | **public class Q1** |
| **2** | **{** |
| **3** | **public static void main(String args[])** |
| **4** | **{** |
| **5** | **int x = 0, i =0, sum = 0;** |
| **6** | **i = 1;** |
| **7** | **x = 2;** |
| **8** | **sum = 0;** |
| **9** | **while (i < 20){** |
| **10** | **x = x + i;** |
| **11** | **sum = sum + x + 1;** |
| **12** | **System.out.println(sum);** |
| **13** | **if (x > 5)** |
| **14** | **i += 2;** |
| **15** | **else** |
| **16** | **i += 3;** |
| **17** | **}** |
| **18** | **sum = sum + i;** |
| **19** | **System.out.println(sum);** |
| **20** | **}** |
| **21** | **}** |

In the above program show the values that are going to be printed in line 12 and 19. (Lines with the println statement).

**9. Consider the following code:**

|  |  |
| --- | --- |
| **1** | **public class Q2** |
| **2** | **{** |
| **3** | **public static void main(String args[])** |
| **4** | **{** |
| **5** | **int x = 0, y =0;** |
| **6** | **int sum = 0;** |
| **7** | **while (x < 10){** |
| **8** | **y = x - 3;** |
| **9** | **y = 40;** |
| **10** | **while (y > 22){** |
| **11** | **if ((sum > 30) && (sum < 40))** |
| **12** | **sum = sum + x \* 2 ;** |
| **13** | **else if ((sum > 40) && (sum < 50))** |
| **14** | **sum = sum + x \* 3;** |
| **15** | **else** |
| **16** | **sum = sum + 23;** |
| **17** | **System.out.println(sum);** |
| **18** | **y = y - 10;** |
| **19** | **}** |
| **20** | **x += 2;** |
| **21** | **}** |
| **22** | **}** |
| **23** | **}** |

**In the above program show the values of sum that are going to be printed in the line 17.**

**10. consider the following code:**

|  |
| --- |
| **public class Q4** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **boolean var1 = false, var2 = false, var3 = false, var4 = false,var5 = false;** |
| **boolean var6 = false, result1 = false, result2 = false, result3 = false, result4 = false;** |
| **boolean result5 = false, result6 = false, result7 = false, result8 = false;** |
| **boolean result9 = false, result10 = false;** |
| **var1 = 4 > 3 - 1;** |
| **var2 = var1 && false;** |
| **var3 = true;** |
| **var4 = false;** |
| **var5 = true;** |
| **var6 = var3 && false;** |
| **result1 = (var1 || var2) && (8 \* 10 > 45);** |
| **result2 = (var1 || var2) && (result1 && false);** |
| **result3 = (var1 && result1) || result2;** |
| **result4 = (var1 || var2) || ((var3 && var1) && false);** |
| **result5 = (var1 && var2) && (result3 || var1);** |
| **result6 = ((var3 || var2) && !(result5)) || true;** |
| **result7 = (var4 && result1) && ((result1 && false) || true);** |
| **result8 = ((var1 && result3) && (var5 || var6)) && true;** |
| **result9 = ((result2 && var2) || (result7 && var1)) && false;** |
| **result10 = !(var1 && true);** |
| **}** |
| **}** |

Show the values of the result variables in the above program:

|  |  |
| --- | --- |
| **result1** |  |
| **result2** |  |
| **result3** |  |
| **result4** |  |
| **result5** |  |
| **result6** |  |
| **result7** |  |
| **result8** |  |
| **result9** |  |
| **result10** |  |

**11. consider the following code:**

|  |  |
| --- | --- |
| **1** | **public class Q1** |
| **2** | **{** |
| **3** | **public static void main(String args[])** |
| **4** | **{** |
| **5** | **int x = 0, i =0, sum = 0;** |
| **6** | **i = 1;** |
| **7** | **x = 2;** |
| **8** | **sum = 0;** |
| **9** | **while (i < 20){** |
| **10** | **x = x + i;** |
| **11** | **sum = sum + x + 3;** |
| **12** | **System.out.println(sum);** |
| **13** | **if (x > 5)** |
| **14** | **i += 2;** |
| **15** | **else** |
| **16** | **i += 3;** |
| **17** | **}** |
| **18** | **sum = sum + i;** |
| **19** | **System.out.println(sum);** |
| **20** | **}** |
| **21** | **}** |

In the above program show the values that are going to be printed in line 12 and 19. (Lines with the println statement).

**12. consider the following code:**

|  |  |
| --- | --- |
| **1** | **public class Q2** |
| **2** | **{** |
| **3** | **public static void main(String args[])** |
| **4** | **{** |
| **5** | **int x = 0, y =0;** |
| **6** | **int sum = 0;** |
| **7** | **while (x < 10){** |
| **8** | **y = x - 3;** |
| **9** | **y = 40;** |
| **10** | **while (y > 22){** |
| **11** | **if ((sum > 30) && (sum < 40))** |
| **12** | **sum = sum + x \* 3 ;** |
| **13** | **else if ((sum > 40) && (sum < 50))** |
| **14** | **sum = sum + x \* 4;** |
| **15** | **else** |
| **16** | **sum = sum + 24;** |
| **17** | **System.out.println(sum);** |
| **18** | **y = y - 10;** |
| **19** | **}** |
| **20** | **x += 2;** |
| **21** | **}** |
| **22** | **}** |
| **23** | **}** |

**In the above program show the values of sum that are going to be printed in the line 17.**

**13. consider the following code:**

|  |
| --- |
| **public class Q4** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **boolean var1 = false, var2 = false, var3 = false, var4 = false,var5 = false;** |
| **boolean var6 = false, result1 = false, result2 = false, result3 = false, result4 = false;** |
| **boolean result5 = false, result6 = false, result7 = false, result8 = false;** |
| **boolean result9 = false, result10 = false;** |
| **var1 = 4 < 3 - 1;** |
| **var2 = var1 && false;** |
| **var3 = false;** |
| **var4 = true;** |
| **var5 = false;** |
| **var6 = var3 && true;** |
| **result1 = (var1 || var2) && (8 \* 10 > 45);** |
| **result2 = (var1 || var2) && (result1 && false);** |
| **result3 = (var1 && result1) || result2;** |
| **result4 = (var1 || var2) || ((var3 && var1) && false);** |
| **result5 = (var1 && var2) && (result3 || var1);** |
| **result6 = ((var3 || var2) && !(result5)) || true;** |
| **result7 = (var4 && result1) && ((result1 && false) || true);** |
| **result8 = ((var1 && result3) && (var5 || var6)) && true;** |
| **result9 = ((result2 && var2) || (result7 && var1)) && false;** |
| **result10 = !(var1 && true);** |
| **}** |
| **}** |

Show the values of the result variables in the above program:

|  |  |
| --- | --- |
| **result1** | **false** |
| **result2** | **false** |
| **result3** | **false** |
| **result4** | **false** |
| **result5** | **false** |
| **result6** | **true** |
| **result7** | **false** |
| **result8** | **false** |
| **result9** | **false** |
| **result10** | **true** |

**14. Consider the following code:**

|  |
| --- |
| **public class Quiz3A** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int x = 0, y =0;** |
| **int sum = 0;** |
| **while (x < 10){** |
| **y = x - 3;** |
| **while (y < 3){** |
| **sum = x - y \* 2 ;** |
| **System.out.println(sum);** |
| **y = y + 1;** |
| **}** |
| **if (x > 7){** |
| **x++;** |
| **}else{** |
| **x += 3;** |
| **}** |
| **}** |
| **sum = x - y \* 2 ;** |
| **System.out.println(sum);** |
| **}** |
| **}** |

**What are the values of “sum” that will be printed?**

**15. Consider the following code:**

|  |
| --- |
| **public class Quiz3B** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int x = 0, y =0;** |
| **int sum = 0;** |
| **while (x < 10){** |
| **y = x - 3;** |
| **while (y < 3){** |
| **sum = x - y \* 3 ;** |
| **System.out.println(sum);** |
| **y = y + 1;** |
| **}** |
| **if (x > 7){** |
| **x++;** |
| **}else{** |
| **x += 3;** |
| **}** |
| **}** |
| **sum = x - y \* 3 ;** |
| **System.out.println(sum);** |
| **}** |
| **}** |

**What are the values of “sum” that will be printed?**

**16. Consider the following code:**

|  |  |
| --- | --- |
| **1** | **public class Q2** |
| **2** | **{** |
| **3** | **public static void main(String args[])** |
| **4** | **{** |
| **5** | **int x = 0, y =0;** |
| **6** | **int sum = 0;** |
| **7** | **while (x < 10){** |
| **8** | **y = x - 3;** |
| **9** | **y = 40;** |
| **10** | **while (y > 22){** |
| **11** | **if ((sum > 30) && (sum < 40))** |
| **12** | **sum = sum + x \* 2 ;** |
| **13** | **else if ((sum > 40) && (sum < 50))** |
| **14** | **sum = sum + x \* 3;** |
| **15** | **else** |
| **16** | **sum = sum + 23;** |
| **17** | **System.out.println(sum);** |
| **18** | **y = y - 10;** |
| **19** | **}** |
| **20** | **x += 2;** |
| **21** | **}** |
| **22** | **}** |
| **23** | **}** |

**In the above program show the values of sum that are going to be printed in the line 17.**

**17. Consider the following code:**

|  |  |
| --- | --- |
| **1** | **public class Q2** |
| **2** | **{** |
| **3** | **public static void main(String args[])** |
| **4** | **{** |
| **5** | **int x = 0, y =0;** |
| **6** | **int sum = 0;** |
| **7** | **while (x < 10){** |
| **8** | **y = x - 3;** |
| **9** | **y = 40;** |
| **10** | **while (y > 22){** |
| **11** | **if ((sum > 30) && (sum < 40))** |
| **12** | **sum = sum + x \* 3 ;** |
| **13** | **else if ((sum > 40) && (sum < 50))** |
| **14** | **sum = sum + x \* 4;** |
| **15** | **else** |
| **16** | **sum = sum + 24;** |
| **17** | **System.out.println(sum);** |
| **18** | **y = y - 10;** |
| **19** | **}** |
| **20** | **x += 2;** |
| **21** | **}** |
| **22** | **}** |
| **23** | **}** |

**In the above program show the values of sum that are going to be printed in the line 17.**

**18. Consider the following code:**

|  |
| --- |
| **public class Q3a** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int x = 0, p =0, sum = 0;** |
| **p = 1;** |
| **x = 2;** |
| **double q;** |
| **sum = 0;** |
| **while (p < 12){** |
| **q = x + p-(sum+5/3)/3.0%2 ;** |
| **sum = sum + (x++) + (int)q;** |
| **System.out.println(sum);** |
| **if (x > 5)** |
| **p += 4/2;** |
| **Else** |
| **p += 3%1;** |
| **}** |
| **sum = sum + p;** |
| **System.out.println(sum);** |
| **}** |
| **}** |

**Show the output of the program.**

**19. Consider the following code:**

|  |
| --- |
| **public class Q4a** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int test = 1;** |
| **int j = 0, k = 100;** |
| **while (k > 0){** |
| **while (j < k ){** |
| **test = k + j - 21;** |
| **System.out.println(1 + test / 2 +"32");** |
| **j+=10;** |
| **}** |
| **k-=10;** |
| **}** |
| **}** |
| **}** |

**Show the output of the program.**

**20. Consider the following code:**

|  |
| --- |
| **public class Q5a** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **String test = "";** |
| **int i = 5, j = 0, k = 15;** |
| **while (i < 10){** |
| **k-=1;** |
| **j = k;** |
| **while (j > 10 ){** |
| **if (j % 2 == 0){** |
| **test = "<--";** |
| **test = test + i + 2 + "-->" + (j / 2);** |
| **}else{** |
| **test = "-->";** |
| **test = "-->" + (i / 2) + test + j;** |
| **}** |
| **System.out.println(test);** |
| **--j;** |
| **}** |
| **i++;** |
| **}** |
| **}** |
| **}** |

Show the output of the program.

**21. Consider the following code:**

|  |
| --- |
| **public class Q3b** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int x = 0, p =0, sum = 0;** |
| **p = 1;** |
| **x = 2;** |
| **double q;** |
| **sum = 0;** |
| **while (p < 12){** |
| **q = x + p-(sum+7/3)/3.0%2 ;** |
| **sum = sum + (x++) + (int)q;** |
| **System.out.println(sum);** |
| **if (x > 5)** |
| **p += 4/2;** |
| **else** |
| **p += 3%1;** |
| **}** |
| **sum = sum + p;** |
| **System.out.println(sum);** |
| **}** |
| **}** |

**Show the output of the program.**

**22. Consider the following code:**

|  |
| --- |
| **public class Q4b** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int test = 1;** |
| **int j = 0, k = 100;** |
| **while (k > 0){** |
| **while (j < k ){** |
| **test = k - j + 21;** |
| **System.out.println(1 + test / 2 +"11");** |
| **j+=10;** |
| **}** |
| **k-=10;** |
| **}** |
| **}** |
| **}** |

**Show the output of the program.**

**23. Consider the following code:**

|  |
| --- |
| **public class Q5b** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **String test = "";** |
| **int i = 5, j = 0, k = 15;** |
| **while (i < 10){** |
| **k-=1;** |
| **j = k;** |
| **while (j > 10 ){** |
| **if (j % 2 == 0){** |
| **test = "<--";** |
| **test = test + i + 3 + "-->" + (j / 3);** |
| **}else{** |
| **test = "-->";** |
| **test = "-->" + (i / 3) + test + j ;** |
| **}** |
| **System.out.println(test);** |
| **--j;** |
| **}** |
| **i++;** |
| **}** |
| **}** |
| **}** |

**Show the output of the program.**

**24. Write the output of the following code:**

|  |  |
| --- | --- |
| **Code** | **Output** |
| **String x = "ab";**  **int y = 23;**  **int p;**  **p = y % 3;**  **System.out.println(p + y / 2);**  **x = p + 2 + x + 3 + 2;**  **System.out.println(x);** |  |
| **int d = 21;**  **byte j = 20;**  **d = d / 2 \* 3 + j;**  **System.out.println(d);**  **System.out.println(d / 2 +"32");** |  |
| **double d = 21;**  **int x = 5;**  **int c = 2;**  **x+= 8;**  **c = x % c;**  **System.out.println(c \* 2);**  **d = 1 + d / c + 21;**  **System.out.println(d / 2 + 3);** |  |

**25. Write the output of the following code:**

|  |  |
| --- | --- |
| **Code** | **Output** |
| **String x = "cd";**  **int y = 21;**  **int p;**  **p = y % 3;**  **System.out.println(p + y / 2);**  **x = p + 1 + x + 4 + 1;**  **System.out.println(x);** |  |
| **int d = 23;**  **byte j = 22;**  **d = d / 2 \* 3 + j;**  **System.out.println(d);**  **System.out.println(d / 2 +"21");** |  |
| **double d = 23;**  **int x = 3;**  **int c = 3;**  **x+= 8;**  **c = x % c;**  **System.out.println(c \* 2);**  **d = 2 + d / c + 20;**  **System.out.println(d / 2 + 1);** |  |

**26. Consider the following code:**

|  |
| --- |
| **public class QuizA** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **String test = "";** |
| **int i = 0, j = 0, k = 15;** |
| **test = "<--cat";** |
| **while (i < 5){** |
| **k-=1;** |
| **j = k;** |
| **while (j > 10 ){** |
| **if (j % 2 == 0){** |
| **test += "-->";** |
| **test = test + i + (j / 2);** |
| **}else{** |
| **test += "<--";** |
| **test = test + (i / 2) + j;** |
| **}** |
| **System.out.println(test);** |
| **--j;** |
| **}** |
| **i++;** |
| **}** |
| **}** |
| **}** |

**What is the output of the program?**

**27. Consider the following code:**

|  |
| --- |
| **public class QuizB** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **String test = "";** |
| **int i = 2, j = 0, k = 17;** |
| **test = "-->dog";** |
| **while (i < 7){** |
| **k-=1;** |
| **j = k;** |
| **while (j > 12 ){** |
| **if (j % 2 == 0){** |
| **test += "<--";** |
| **test = test + i + (j / 2);** |
| **}else{** |
| **test += "-->";** |
| **test = test + (i / 2) + j;** |
| **}** |
| **System.out.println(test);** |
| **--j;** |
| **}** |
| **i++;** |
| **}** |
| **}** |
| **}** |

**28. Consider the following code:**

|  |
| --- |
| **public class ArrayTraceA** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int [] myArray = new int[10];** |
| **int index1 = 0, index2 =0;** |
| **index1 = 1;** |
| **while (index1 < 10){** |
| **myArray[index1] = index1 + 3;** |
| **index2 = 1;** |
| **while (index2 < index1 ){** |
| **myArray[index1] = myArray[index1] + myArray[index2] - index1;** |
| **index2 = index2 + 1;** |
| **}** |
| **System.out.println(myArray[index1]);** |
| **index1 = index1 + 1;** |
| **}** |
| **}** |
| **}** |

**What is the output?**

**29**. a) What does JVM stand for? What is the purpose of JVM?

b) How many keywords in Java? Write down 5 keywords.

c) What are the rules for naming Identifiers?

d) How to specify the followings (also give example) –

i) A float literal

ii) A long literal

iii) Hexadecimal literal

iv) Octal literal

e) What would be the output of the following code? And, Why?

byte b;

int i = 300;

b = (byte) i;

System.out.println(b);

f) Write code snippet to declare two String type variables ‘Part1’ & ‘Part2’ and assign “Quiz ” & “2” to them respectively. Then give the concatenation of them as output.

1. Discuss what is wrong with the following code and how you could correct it.

public class MyClass{

public static void main(String args[]){

int x;

for (x=0; x<3; x++) {

int y = 100;

System.out.println ( y);

}

System.out.println (y);

}

}

**30. Which of the following are Valid Identifiers? 0.5 x 8 = 4**

i) 5eries ii) My.VarName iii) keywords iv) ‘GoodName’

v) Day-Count vi) $40 vii) Long viii) double

**31. Consider the following code:**

|  |
| --- |
| **public class ArrayTraceA** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int [] myArray = new int[10];** |
| **int index1 = 0, index2 =0;** |
| **index1 = 1;** |
| **while (index1 < 10){** |
| **myArray[index1] = index1 + 3;** |
| **index2 = 1;** |
| **while (index2 < index1 ){** |
| **myArray[index1] = myArray[index1] + myArray[index2] - index1;** |
| **index2 = index2 + 1;** |
| **}** |
| **System.out.println(myArray[index1]);** |
| **index1 = index1 + 1;** |
| **}** |
| **}** |
| **}** |

**What is the output?**

**31. Consider the following code:**

|  |
| --- |
| **public class ArrayTraceB** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int [] myArray = new int[10];** |
| **int index1 = 0, index2 =0;** |
| **index1 = 1;** |
| **while (index1 < 10){** |
| **myArray[index1] = index1 + 4;** |
| **index2 = 1;** |
| **while (index2 < index1 ){** |
| **myArray[index1] = myArray[index1] + myArray[index2] - index1;** |
| **index2 = index2 + 1;** |
| **}** |
| **System.out.println(myArray[index1]);** |
| **index1 = index1 + 1;** |
| **}** |
| **}** |
| **}** |

**What is the output?**

**32. Write the output of the following code:**

|  |  |
| --- | --- |
| **Code** | **Output** |
| **String x = "ab";**  **int y = 23;**  **int p;**  **p = y / 3 % 2;**  **System.out.println(y - p / 2);**  **x = p \* 2 + x + (3 + 2);**  **System.out.println(x);** |  |
| **int d = 21;**  **byte j = 10;**  **j\*=2;**  **d = d / 2 \* 3 - j;**  **System.out.println(d);**  **System.out.println(d % 2 +"32"+ j);** |  |
| **double d = 42;**  **int x = 5;**  **int c = 2;**  **x+= 8;**  **d/=2;**  **c = x % c;**  **System.out.println(c \* 2 + d);**  **d = 1 + d / c + 21;**  **System.out.println(d / 2 + 3 + "c");** |  |

**33. Write the output of the following code:**

|  |  |
| --- | --- |
| **Code** | **Output** |
| **String x = "xz";**  **int y = 21;**  **int p;**  **p = y / 2 % 2;**  **System.out.println(y - p / 2);**  **x = p \* 1 + x + (4 + 3);**  **System.out.println(x);** |  |
| **int d = 23;**  **byte j = 11;**  **j\*=2;**  **d = d / 2 \* 3 - j;**  **System.out.println(d);**  **System.out.println(d % 2 +"12"+ j);** |  |
| **double d = 22;**  **int x = 7;**  **int c = 2;**  **x+= 8;**  **d/=2;**  **c = x % c;**  **System.out.println(c \* 3 + d);**  **d = 2 + d / c + 23;**  **System.out.println(d / 2 + 3 + "j");** |  |

**34. Consider the following code:**

|  |
| --- |
| **public class Q4a** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int x = 0, y =0;** |
| **int sum = 0;** |
| **double p;** |
| **while (x < 10){** |
| **y = x / 2;** |
| **while (y < x){** |
| **p = (x + 10.0) / 2;** |
| **sum = (sum % 2) + x - y \* 2 + (int) p ;** |
| **System.out.println(sum);** |
| **y = y + 2;** |
| **}** |
| **if (x > 5){** |
| **x++;** |
| **}else{** |
| **x += 2;** |
| **}** |
| **}** |
| **}** |
| **}** |

**What is the output of the program?**

**35. Consider the following code:**

|  |
| --- |
| **public class Q4b** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int x = 0, y =0;** |
| **int sum = 0;** |
| **double p;** |
| **while (x < 10){** |
| **y = x / 2;** |
| **while (y < x){** |
| **p = (x + 5.0) / 2;** |
| **sum = (sum % 2) + x - y \* 2 + (int) p ;** |
| **System.out.println(sum);** |
| **y = y + 2;** |
| **}** |
| **if (x > 5){** |
| **x++;** |
| **}else{** |
| **x += 2;** |
| **}** |
| **}** |
| **}** |
| **}** |

**What is the output of the program?**

**36. Consider the following code:**

|  |
| --- |
| **public class Q3a** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int x = 0, p =0, sum = 0;** |
| **p = 1;** |
| **x = 2;** |
| **double q;** |
| **sum = 0;** |
| **while (p < 12){** |
| **q = x + p-(sum+5/3)/3.0%2 ;** |
| **sum = sum + (x++) + (int)q;** |
| **System.out.println(sum);** |
| **if (x > 5)** |
| **p += 4/2;** |
| **Else** |
| **p += 3%1;** |
| **}** |
| **sum = sum + p;** |
| **System.out.println(sum);** |
| **}** |
| **}** |

**Show the output of the program.**

**37. Consider the following code:**

|  |
| --- |
| **public class Q4a** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int test = 1;** |
| **int j = 0, k = 100;** |
| **while (k > 0){** |
| **while (j < k ){** |
| **test = k + j - 21;** |
| **System.out.println(1 + test / 2 +"32");** |
| **j+=10;** |
| **}** |
| **k-=10;** |
| **}** |
| **}** |
| **}** |

**Show the output of the program.**

**38. Consider the following code:**

|  |
| --- |
| **public class Q5a** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **String test = "";** |
| **int i = 5, j = 0, k = 15;** |
| **while (i < 10){** |
| **k-=1;** |
| **j = k;** |
| **while (j > 10 ){** |
| **if (j % 2 == 0){** |
| **test = "<--";** |
| **test = test + i + 2 + "-->" + (j / 2);** |
| **}else{** |
| **test = "-->";** |
| **test = "-->" + (i / 2) + test + j;** |
| **}** |
| **System.out.println(test);** |
| **--j;** |
| **}** |
| **i++;** |
| **}** |
| **}** |
| **}** |

Show the output of the program.

**39. Consider the following code:**

|  |
| --- |
| **public class Q6a** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **boolean var1 = false, var2 = false, var3 = false, var4 = false,var5 = false;** |
| **boolean var6 = false, result1 = false, result2 = false, result3 = false, result4 = false;** |
| **boolean result5 = false, result6 = false, result7 = false, result8 = false;** |
| **boolean result9 = false, result10 = false;** |
| **var1 = (!true || true) && false;** |
| **var2 = var1 && false;** |
| **var3 = true && !false;** |
| **var4 = false;** |
| **var5 = true;** |
| **var6 = var3 && false;** |
| **result1 = (var1 && var2) && ( 40 % 3 > 45) || (var5 && var6);** |
| **result2 = (var1 || var2) || (result1 && false);** |
| **result3 = (var1 && result1) || result2 || var5;** |
| **result4 = (var1 || var2) || ((var3 && var1) && false);** |
| **result5 = (var1 && var2) && (result3 || var1);** |
| **result6 = ((var3 || !var2) && (result5)) || true;** |
| **result7 = (var4 && result1) && ((result1 && false) || true);** |
| **result8 = ((var1 && result3) && (!var5 || var6)) && true;** |
| **result9 = ((result2 && var2) || (!result7 && var1)) && !false;** |
| **result10 = !(var1 && true);** |
| **}** |
| **}** |

**Show the values of the result variables in the above program:**

|  |  |
| --- | --- |
| **result1** | **false** |
| **result2** | **false** |
| **result3** | **true** |
| **result4** | **false** |
| **result5** | **false** |
| **result6** | **true** |
| **result7** | **false** |
| **result8** | **false** |
| **result9** | **false** |
| **result10** | **true** |

**40. Consider the following code:**

|  |
| --- |
| **public class Q3b** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int x = 0, p =0, sum = 0;** |
| **p = 1;** |
| **x = 2;** |
| **double q;** |
| **sum = 0;** |
| **while (p < 12){** |
| **q = x + p-(sum+7/3)/3.0%2 ;** |
| **sum = sum + (x++) + (int)q;** |
| **System.out.println(sum);** |
| **if (x > 5)** |
| **p += 4/2;** |
| **else** |
| **p += 3%1;** |
| **}** |
| **sum = sum + p;** |
| **System.out.println(sum);** |
| **}** |
| **}** |

**Show the output of the program.**

**41. Consider the following code:**

|  |
| --- |
| **public class Q4b** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int test = 1;** |
| **int j = 0, k = 100;** |
| **while (k > 0){** |
| **while (j < k ){** |
| **test = k - j + 21;** |
| **System.out.println(1 + test / 2 +"11");** |
| **j+=10;** |
| **}** |
| **k-=10;** |
| **}** |
| **}** |
| **}** |

**Show the output of the program.**

**42. Consider the following code:**

|  |
| --- |
| **public class Q5b** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **String test = "";** |
| **int i = 5, j = 0, k = 15;** |
| **while (i < 10){** |
| **k-=1;** |
| **j = k;** |
| **while (j > 10 ){** |
| **if (j % 2 == 0){** |
| **test = "<--";** |
| **test = test + i + 3 + "-->" + (j / 3);** |
| **}else{** |
| **test = "-->";** |
| **test = "-->" + (i / 3) + test + j ;** |
| **}** |
| **System.out.println(test);** |
| **--j;** |
| **}** |
| **i++;** |
| **}** |
| **}** |
| **}** |

**Show the output of the program.**

**43. Consider the following code:**

|  |
| --- |
| **public class Q6b** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **boolean var1 = false, var2 = false, var3 = false, var4 = false,var5 = false;** |
| **boolean var6 = false, result1 = false, result2 = false, result3 = false, result4 = false;** |
| **boolean result5 = false, result6 = false, result7 = false, result8 = false;** |
| **boolean result9 = false, result10 = false;** |
| **var1 = (!false || false) && true;** |
| **var2 = var1 && true;** |
| **var3 = false && !true;** |
| **var4 = true;** |
| **var5 = false;** |
| **var6 = var3 && true;** |
| **result1 = (var1 && var2) && ( 40 % 3 > 45) || (var5 && var6);** |
| **result2 = (var1 || var2) || (result1 && false);** |
| **result3 = (var1 && result1) || result2 || var5;** |
| **result4 = (var1 || var2) || ((var3 && var1) && false);** |
| **result5 = (var1 && var2) && (result3 || var1);** |
| **result6 = ((var3 || !var2) && (result5)) || true;** |
| **result7 = (var4 && result1) && ((result1 && false) || true);** |
| **result8 = ((var1 && result3) && (!var5 || var6)) && true;** |
| **result9 = ((result2 && var2) || (!result7 && var1)) && !false;** |
| **result10 = !(var1 && true);** |
| **}** |
| **}** |

**Show the values of the result variables in the above program:**

|  |  |
| --- | --- |
| **result1** | **false** |
| **result2** | **true** |
| **result3** | **true** |
| **result4** | **true** |
| **result5** | **true** |
| **result6** | **true** |
| **result7** | **false** |
| **result8** | **true** |
| **result9** | **true** |
| **result10** | **false** |

**44. Write the output of the following code:**

|  |  |
| --- | --- |
| **Code** | **Output** |
| **String x = "abc";**  **int y = 27;**  **int p;**  **p = y % 3;**  **System.out.println(p + y / 2);**  **x = p + 2 + x + 3 + 2;**  **System.out.println(x);** |  |
| **int d = 27;**  **byte j = 20;**  **d = d / 2 \* 3 + j;**  **System.out.println(d);**  **System.out.println(d / 2 +"42");** |  |
| **double d = 21;**  **int x = 13;**  **int c = 3;**  **x+= 7;**  **c = x % c;**  **System.out.println(c \* 3);**  **d = 1 + d / c + 21;**  **System.out.println(d / 2 + 4);** |  |

**45. Write the output of the following code:**

|  |  |
| --- | --- |
| **Code** | **Output** |
| **String x = "cde";**  **int y = 13;**  **int p;**  **p = y % 3;**  **System.out.println(p + y / 2);**  **x = p + 1 + x + 4 + 1;**  **System.out.println(x);** |  |
| **int d = 23;**  **byte j = 22;**  **d = d / 2 \* 2 + j;**  **System.out.println(d);**  **System.out.println(d / 2 +"21");** |  |
| **double d = 23;**  **int x = 3;**  **int c = 3;**  **x+= 8;**  **c = x % c;**  **System.out.println(c \* 3);**  **d = 2 + d / c + 20;**  **System.out.println(d / 2 + 5);** |  |

**46. Consider the following code:**

|  |
| --- |
| **public class QuizA** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **String test = "";** |
| **int i = 0, j = 0, k = 15;** |
| **test = "<--cat";** |
| **while (i < 5){** |
| **k-=1;** |
| **j = k;** |
| **while (j > 10 ){** |
| **if (j % 2 == 0){** |
| **test += "-->";** |
| **test = test + i + (j / 2);** |
| **}else{** |
| **test += "<--";** |
| **test = test + (i / 2) + j;** |
| **}** |
| **System.out.println(test);** |
| **if (j == 12){** |
| **test = "<--cat";** |
| **}** |
| **--j;** |
| **}** |
| **i++;** |
| **}** |
| **}** |
| **}** |

**What is the output of the program?**

**47. Consider the following code:**

|  |
| --- |
| **public class QuizB** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **String test = "";** |
| **int i = 2, j = 0, k = 17;** |
| **test = "-->dog";** |
| **while (i < 7){** |
| **k-=1;** |
| **j = k;** |
| **while (j > 12 ){** |
| **if (j % 2 == 0){** |
| **test += "<--";** |
| **test = test + i + (j / 2);** |
| **}else{** |
| **test += "-->";** |
| **test = test + (i / 2) + j;** |
| **}** |
| **System.out.println(test);** |
| **if (j == 14){** |
| **test = "-->dog";** |
| **}** |
| **--j;** |
| **}** |
| **i++;** |
| **}** |
| **}** |
| **}** |

**What is the output of the program?**

**48. Consider the following code:**

|  |
| --- |
| **public class Q5a** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int x = 0, y =0;** |
| **int sum = 0;** |
| **double p;** |
| **while (x < 10){** |
| **y = x / 2;** |
| **while (y < x){** |
| **p = (x + 10.0) / 2;** |
| **sum = (sum % 2) + x - y \* 2 + (int) p ;** |
| **System.out.println(sum);** |
| **y = y + 2;** |
| **}** |
| **if (x > 5){** |
| **x++;** |
| **}else{** |
| **x += 2;** |
| **}** |
| **}** |
| **}** |
| **}** |

**What is the output of the program?**

**48. Consider the following code:**

|  |
| --- |
| **public class Q5b** |
| **{** |
| **public static void main(String args[])** |
| **{** |
| **int x = 0, y =0;** |
| **int sum = 0;** |
| **double p;** |
| **while (x < 10){** |
| **y = x / 2;** |
| **while (y < x){** |
| **p = (x + 5.0) / 2;** |
| **sum = (sum % 2) + x - y \* 2 + (int) p ;** |
| **System.out.println(sum);** |
| **y = y + 2;** |
| **}** |
| **if (x > 5){** |
| **x++;** |
| **}else{** |
| **x += 2;** |
| **}** |
| **}** |
| **}** |
| **}** |

**What is the output of the program?**