|  |  |
| --- | --- |
|  | **public class Quiz5A{** |
|  | **public static void main(String [] args){** |
|  | **int [] x = {1,4,33,6,7,11,22,44,66,2};** |
|  | **int i = 0;** |
|  | **int j = 0;** |
|  | **while(i<9) {** |
|  | **j = i + 1;** |
|  | **while ( j<10) {** |
|  | **if (x[i] > x[j]) {** |
|  | **int temp = x[i];** |
|  | **x[i] = x[j];** |
|  | **x[j] = temp;** |
|  | **System.out.println(x[i] + temp);** |
|  | **}** |
|  | **j++;** |
|  | **}** |
|  | **i++;** |
|  | **}** |
|  | **}** |
|  | **}** |

|  |
| --- |
| **Output** |
| 6 |
| 39 |
| 10 |
| 40 |
| 13 |
| 44 |
| 18 |
| 55 |
| 33 |
| 55 |
| 77 |
| 110 |

Line 6: while(i<9) {

Line 6: while(0<9) {

condition true, going inside 1st while loop

Line 7: j = i + 1;

Line 7: j = 01;

Line 7: j = 1;

Line 8: while ( j<10) {

Line 8: while (1<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[0] > x[1]) {

Line 9: if (1 > 4) {

condition false, skipping IF part

Line 15: j++;

j was 1 becomes 2

Line 8: while ( j<10) {

Line 8: while (2<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[0] > x[2]) {

Line 9: if (1 > 33) {

condition false, skipping IF part

Line 15: j++;

j was 2 becomes 3

Line 8: while ( j<10) {

Line 8: while (3<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[0] > x[3]) {

Line 9: if (1 > 6) {

condition false, skipping IF part

Line 15: j++;

j was 3 becomes 4

Line 8: while ( j<10) {

Line 8: while (4<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[0] > x[4]) {

Line 9: if (1 > 7) {

condition false, skipping IF part

Line 15: j++;

j was 4 becomes 5

Line 8: while ( j<10) {

Line 8: while (5<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[0] > x[5]) {

Line 9: if (1 > 11) {

condition false, skipping IF part

Line 15: j++;

j was 5 becomes 6

Line 8: while ( j<10) {

Line 8: while (6<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[0] > x[6]) {

Line 9: if (1 > 22) {

condition false, skipping IF part

Line 15: j++;

j was 6 becomes 7

Line 8: while ( j<10) {

Line 8: while (7<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[0] > x[7]) {

Line 9: if (1 > 44) {

condition false, skipping IF part

Line 15: j++;

j was 7 becomes 8

Line 8: while ( j<10) {

Line 8: while (8<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[0] > x[8]) {

Line 9: if (1 > 66) {

condition false, skipping IF part

Line 15: j++;

j was 8 becomes 9

Line 8: while ( j<10) {

Line 8: while (9<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[0] > x[9]) {

Line 9: if (1 > 2) {

condition false, skipping IF part

Line 15: j++;

j was 9 becomes 10

Line 8: while ( j<10) {

Line 8: while (10<10) {

condition false, going outside 2nd while loop

i was 0 becomes 1

Line 6: while(i<9) {

Line 6: while(1<9) {

condition true, going inside 1st while loop

Line 7: j = i + 1;

Line 7: j = 11;

Line 7: j = 2;

Line 8: while ( j<10) {

Line 8: while (2<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[1] > x[2]) {

Line 9: if (4 > 33) {

condition false, skipping IF part

Line 15: j++;

j was 2 becomes 3

Line 8: while ( j<10) {

Line 8: while (3<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[1] > x[3]) {

Line 9: if (4 > 6) {

condition false, skipping IF part

Line 15: j++;

j was 3 becomes 4

Line 8: while ( j<10) {

Line 8: while (4<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[1] > x[4]) {

Line 9: if (4 > 7) {

condition false, skipping IF part

Line 15: j++;

j was 4 becomes 5

Line 8: while ( j<10) {

Line 8: while (5<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[1] > x[5]) {

Line 9: if (4 > 11) {

condition false, skipping IF part

Line 15: j++;

j was 5 becomes 6

Line 8: while ( j<10) {

Line 8: while (6<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[1] > x[6]) {

Line 9: if (4 > 22) {

condition false, skipping IF part

Line 15: j++;

j was 6 becomes 7

Line 8: while ( j<10) {

Line 8: while (7<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[1] > x[7]) {

Line 9: if (4 > 44) {

condition false, skipping IF part

Line 15: j++;

j was 7 becomes 8

Line 8: while ( j<10) {

Line 8: while (8<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[1] > x[8]) {

Line 9: if (4 > 66) {

condition false, skipping IF part

Line 15: j++;

j was 8 becomes 9

Line 8: while ( j<10) {

Line 8: while (9<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[1] > x[9]) {

Line 9: if (4 > 2) {

condition true, executing IF part

Line 10: int temp = x[i];

Line 10: int temp = x[1];

Line 10: int temp = 4;

Line 11: x[i] = x[j];

Line 11: x[1] = x[9];

Line 11: x[1] = 2;

Line 12: x[j] = temp;

Line 12: x[9] = 4;

Line 13: System.out.println(x[i] + temp);

Line 13: System.out.println(x[1] +4);

Line 13: System.out.println(2 + 4);

Line 13: System.out.println(6);

OUTPUT IS 6

Line 15: j++;

j was 9 becomes 10

Line 8: while ( j<10) {

Line 8: while (10<10) {

condition false, going outside 2nd while loop

i was 1 becomes 2

Line 6: while(i<9) {

Line 6: while(2<9) {

condition true, going inside 1st while loop

Line 7: j = i + 1;

Line 7: j = 21;

Line 7: j = 3;

Line 8: while ( j<10) {

Line 8: while (3<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[2] > x[3]) {

Line 9: if (33 > 6) {

condition true, executing IF part

Line 10: int temp = x[i];

Line 10: int temp = x[2];

Line 10: int temp = 33;

Line 11: x[i] = x[j];

Line 11: x[2] = x[3];

Line 11: x[2] = 6;

Line 12: x[j] = temp;

Line 12: x[3] = 33;

Line 13: System.out.println(x[i] + temp);

Line 13: System.out.println(x[2] +33);

Line 13: System.out.println(6 + 33);

Line 13: System.out.println(39);

OUTPUT IS 39

Line 15: j++;

j was 3 becomes 4

Line 8: while ( j<10) {

Line 8: while (4<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[2] > x[4]) {

Line 9: if (6 > 7) {

condition false, skipping IF part

Line 15: j++;

j was 4 becomes 5

Line 8: while ( j<10) {

Line 8: while (5<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[2] > x[5]) {

Line 9: if (6 > 11) {

condition false, skipping IF part

Line 15: j++;

j was 5 becomes 6

Line 8: while ( j<10) {

Line 8: while (6<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[2] > x[6]) {

Line 9: if (6 > 22) {

condition false, skipping IF part

Line 15: j++;

j was 6 becomes 7

Line 8: while ( j<10) {

Line 8: while (7<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[2] > x[7]) {

Line 9: if (6 > 44) {

condition false, skipping IF part

Line 15: j++;

j was 7 becomes 8

Line 8: while ( j<10) {

Line 8: while (8<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[2] > x[8]) {

Line 9: if (6 > 66) {

condition false, skipping IF part

Line 15: j++;

j was 8 becomes 9

Line 8: while ( j<10) {

Line 8: while (9<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[2] > x[9]) {

Line 9: if (6 > 4) {

condition true, executing IF part

Line 10: int temp = x[i];

Line 10: int temp = x[2];

Line 10: int temp = 6;

Line 11: x[i] = x[j];

Line 11: x[2] = x[9];

Line 11: x[2] = 4;

Line 12: x[j] = temp;

Line 12: x[9] = 6;

Line 13: System.out.println(x[i] + temp);

Line 13: System.out.println(x[2] +6);

Line 13: System.out.println(4 + 6);

Line 13: System.out.println(10);

OUTPUT IS 10

Line 15: j++;

j was 9 becomes 10

Line 8: while ( j<10) {

Line 8: while (10<10) {

condition false, going outside 2nd while loop

i was 2 becomes 3

Line 6: while(i<9) {

Line 6: while(3<9) {

condition true, going inside 1st while loop

Line 7: j = i + 1;

Line 7: j = 31;

Line 7: j = 4;

Line 8: while ( j<10) {

Line 8: while (4<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[3] > x[4]) {

Line 9: if (33 > 7) {

condition true, executing IF part

Line 10: int temp = x[i];

Line 10: int temp = x[3];

Line 10: int temp = 33;

Line 11: x[i] = x[j];

Line 11: x[3] = x[4];

Line 11: x[3] = 7;

Line 12: x[j] = temp;

Line 12: x[4] = 33;

Line 13: System.out.println(x[i] + temp);

Line 13: System.out.println(x[3] +33);

Line 13: System.out.println(7 + 33);

Line 13: System.out.println(40);

OUTPUT IS 40

Line 15: j++;

j was 4 becomes 5

Line 8: while ( j<10) {

Line 8: while (5<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[3] > x[5]) {

Line 9: if (7 > 11) {

condition false, skipping IF part

Line 15: j++;

j was 5 becomes 6

Line 8: while ( j<10) {

Line 8: while (6<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[3] > x[6]) {

Line 9: if (7 > 22) {

condition false, skipping IF part

Line 15: j++;

j was 6 becomes 7

Line 8: while ( j<10) {

Line 8: while (7<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[3] > x[7]) {

Line 9: if (7 > 44) {

condition false, skipping IF part

Line 15: j++;

j was 7 becomes 8

Line 8: while ( j<10) {

Line 8: while (8<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[3] > x[8]) {

Line 9: if (7 > 66) {

condition false, skipping IF part

Line 15: j++;

j was 8 becomes 9

Line 8: while ( j<10) {

Line 8: while (9<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[3] > x[9]) {

Line 9: if (7 > 6) {

condition true, executing IF part

Line 10: int temp = x[i];

Line 10: int temp = x[3];

Line 10: int temp = 7;

Line 11: x[i] = x[j];

Line 11: x[3] = x[9];

Line 11: x[3] = 6;

Line 12: x[j] = temp;

Line 12: x[9] = 7;

Line 13: System.out.println(x[i] + temp);

Line 13: System.out.println(x[3] +7);

Line 13: System.out.println(6 + 7);

Line 13: System.out.println(13);

OUTPUT IS 13

Line 15: j++;

j was 9 becomes 10

Line 8: while ( j<10) {

Line 8: while (10<10) {

condition false, going outside 2nd while loop

i was 3 becomes 4

Line 6: while(i<9) {

Line 6: while(4<9) {

condition true, going inside 1st while loop

Line 7: j = i + 1;

Line 7: j = 41;

Line 7: j = 5;

Line 8: while ( j<10) {

Line 8: while (5<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[4] > x[5]) {

Line 9: if (33 > 11) {

condition true, executing IF part

Line 10: int temp = x[i];

Line 10: int temp = x[4];

Line 10: int temp = 33;

Line 11: x[i] = x[j];

Line 11: x[4] = x[5];

Line 11: x[4] = 11;

Line 12: x[j] = temp;

Line 12: x[5] = 33;

Line 13: System.out.println(x[i] + temp);

Line 13: System.out.println(x[4] +33);

Line 13: System.out.println(11 + 33);

Line 13: System.out.println(44);

OUTPUT IS 44

Line 15: j++;

j was 5 becomes 6

Line 8: while ( j<10) {

Line 8: while (6<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[4] > x[6]) {

Line 9: if (11 > 22) {

condition false, skipping IF part

Line 15: j++;

j was 6 becomes 7

Line 8: while ( j<10) {

Line 8: while (7<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[4] > x[7]) {

Line 9: if (11 > 44) {

condition false, skipping IF part

Line 15: j++;

j was 7 becomes 8

Line 8: while ( j<10) {

Line 8: while (8<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[4] > x[8]) {

Line 9: if (11 > 66) {

condition false, skipping IF part

Line 15: j++;

j was 8 becomes 9

Line 8: while ( j<10) {

Line 8: while (9<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[4] > x[9]) {

Line 9: if (11 > 7) {

condition true, executing IF part

Line 10: int temp = x[i];

Line 10: int temp = x[4];

Line 10: int temp = 11;

Line 11: x[i] = x[j];

Line 11: x[4] = x[9];

Line 11: x[4] = 7;

Line 12: x[j] = temp;

Line 12: x[9] = 11;

Line 13: System.out.println(x[i] + temp);

Line 13: System.out.println(x[4] +11);

Line 13: System.out.println(7 + 11);

Line 13: System.out.println(18);

OUTPUT IS 18

Line 15: j++;

j was 9 becomes 10

Line 8: while ( j<10) {

Line 8: while (10<10) {

condition false, going outside 2nd while loop

i was 4 becomes 5

Line 6: while(i<9) {

Line 6: while(5<9) {

condition true, going inside 1st while loop

Line 7: j = i + 1;

Line 7: j = 51;

Line 7: j = 6;

Line 8: while ( j<10) {

Line 8: while (6<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[5] > x[6]) {

Line 9: if (33 > 22) {

condition true, executing IF part

Line 10: int temp = x[i];

Line 10: int temp = x[5];

Line 10: int temp = 33;

Line 11: x[i] = x[j];

Line 11: x[5] = x[6];

Line 11: x[5] = 22;

Line 12: x[j] = temp;

Line 12: x[6] = 33;

Line 13: System.out.println(x[i] + temp);

Line 13: System.out.println(x[5] +33);

Line 13: System.out.println(22 + 33);

Line 13: System.out.println(55);

OUTPUT IS 55

Line 15: j++;

j was 6 becomes 7

Line 8: while ( j<10) {

Line 8: while (7<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[5] > x[7]) {

Line 9: if (22 > 44) {

condition false, skipping IF part

Line 15: j++;

j was 7 becomes 8

Line 8: while ( j<10) {

Line 8: while (8<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[5] > x[8]) {

Line 9: if (22 > 66) {

condition false, skipping IF part

Line 15: j++;

j was 8 becomes 9

Line 8: while ( j<10) {

Line 8: while (9<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[5] > x[9]) {

Line 9: if (22 > 11) {

condition true, executing IF part

Line 10: int temp = x[i];

Line 10: int temp = x[5];

Line 10: int temp = 22;

Line 11: x[i] = x[j];

Line 11: x[5] = x[9];

Line 11: x[5] = 11;

Line 12: x[j] = temp;

Line 12: x[9] = 22;

Line 13: System.out.println(x[i] + temp);

Line 13: System.out.println(x[5] +22);

Line 13: System.out.println(11 + 22);

Line 13: System.out.println(33);

OUTPUT IS 33

Line 15: j++;

j was 9 becomes 10

Line 8: while ( j<10) {

Line 8: while (10<10) {

condition false, going outside 2nd while loop

i was 5 becomes 6

Line 6: while(i<9) {

Line 6: while(6<9) {

condition true, going inside 1st while loop

Line 7: j = i + 1;

Line 7: j = 61;

Line 7: j = 7;

Line 8: while ( j<10) {

Line 8: while (7<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[6] > x[7]) {

Line 9: if (33 > 44) {

condition false, skipping IF part

Line 15: j++;

j was 7 becomes 8

Line 8: while ( j<10) {

Line 8: while (8<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[6] > x[8]) {

Line 9: if (33 > 66) {

condition false, skipping IF part

Line 15: j++;

j was 8 becomes 9

Line 8: while ( j<10) {

Line 8: while (9<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[6] > x[9]) {

Line 9: if (33 > 22) {

condition true, executing IF part

Line 10: int temp = x[i];

Line 10: int temp = x[6];

Line 10: int temp = 33;

Line 11: x[i] = x[j];

Line 11: x[6] = x[9];

Line 11: x[6] = 22;

Line 12: x[j] = temp;

Line 12: x[9] = 33;

Line 13: System.out.println(x[i] + temp);

Line 13: System.out.println(x[6] +33);

Line 13: System.out.println(22 + 33);

Line 13: System.out.println(55);

OUTPUT IS 55

Line 15: j++;

j was 9 becomes 10

Line 8: while ( j<10) {

Line 8: while (10<10) {

condition false, going outside 2nd while loop

i was 6 becomes 7

Line 6: while(i<9) {

Line 6: while(7<9) {

condition true, going inside 1st while loop

Line 7: j = i + 1;

Line 7: j = 71;

Line 7: j = 8;

Line 8: while ( j<10) {

Line 8: while (8<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[7] > x[8]) {

Line 9: if (44 > 66) {

condition false, skipping IF part

Line 15: j++;

j was 8 becomes 9

Line 8: while ( j<10) {

Line 8: while (9<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[7] > x[9]) {

Line 9: if (44 > 33) {

condition true, executing IF part

Line 10: int temp = x[i];

Line 10: int temp = x[7];

Line 10: int temp = 44;

Line 11: x[i] = x[j];

Line 11: x[7] = x[9];

Line 11: x[7] = 33;

Line 12: x[j] = temp;

Line 12: x[9] = 44;

Line 13: System.out.println(x[i] + temp);

Line 13: System.out.println(x[7] +44);

Line 13: System.out.println(33 + 44);

Line 13: System.out.println(77);

OUTPUT IS 77

Line 15: j++;

j was 9 becomes 10

Line 8: while ( j<10) {

Line 8: while (10<10) {

condition false, going outside 2nd while loop

i was 7 becomes 8

Line 6: while(i<9) {

Line 6: while(8<9) {

condition true, going inside 1st while loop

Line 7: j = i + 1;

Line 7: j = 81;

Line 7: j = 9;

Line 8: while ( j<10) {

Line 8: while (9<10) {

condition true, going inside 2nd while loop

Line 9: if (x[i] > x[j]) {

Line 9: if (x[8] > x[9]) {

Line 9: if (66 > 44) {

condition true, executing IF part

Line 10: int temp = x[i];

Line 10: int temp = x[8];

Line 10: int temp = 66;

Line 11: x[i] = x[j];

Line 11: x[8] = x[9];

Line 11: x[8] = 44;

Line 12: x[j] = temp;

Line 12: x[9] = 66;

Line 13: System.out.println(x[i] + temp);

Line 13: System.out.println(x[8] +66);

Line 13: System.out.println(44 + 66);

Line 13: System.out.println(110);

OUTPUT IS 110

Line 15: j++;

j was 9 becomes 10

Line 8: while ( j<10) {

Line 8: while (10<10) {

condition false, going outside 2nd while loop

i was 8 becomes 9

Line 6: while(i<9) {

Line 6: while(9<9) {

condition false, going outside 1st while loop