1. What is the output of the following program?

#include <iostream>

int main()

{

int a[100], b[100], j, m;

int suma = 0, sumb = 0, sumdiff = 0;

cin >> m;

for (j = 0 ; j < m ; j++)

{

cin >> a[j] >> b[j];

suma = suma + a[j];

sumb += b[j];

sumdiff = sumdiff + (a[j] - b[j]);

}

for (j = m - 1 ; j >= 0 ; j--)

cout << a[j] << " " << b[j] << " " << a[j] - b[j] << endl;

cout << suma << " " << sumb << " " << sumdiff << endl;

}

DATA:

5

11 15

19 14

4 2

17 6

1 3

**1 3 -2**

**17 6 11**

**4 2 2**

**19 14 5**

**11 15 -4**

**52 40 12**

2. Given: int h = 6, p = 2, m = 3;

int values[7];

Suppose values contains: -4 0 2 6 -2 -1 14

Show the contents of the array values after:

for (; m <=5; m++)

values[m] = values[h] + values[p] \* values[m];

**values = [-4, 0, 2, 26, 10, 12, 14]**

3. Given the declarations:

int sample[8], i, k;

show the contents of the array sample after the following code is

executed. Use a question mark to indicate any garbage values

in the array.

for (k = 0 ; k < 8 ; k++)

if (k % 2)

sample[k] = 1;

**sample = [“, 1, “, 1, “, 1, “]**

4. What is the error in the following program segment?

int main()

{

int i, count[10];

cout << "please enter 10 numbers: ";

for (i = 1; i <= 10; i++)

cin >> count[i];

}

**In the for loop, the indexing is shifted up one and therefore will access an invalid index at i = 10. The for loop statement should be**

**for (i = 0; i < 10; i++)**

**cin >> count[i];**

5. Write the statements to multiply every element of an array of ints

(of size 50) by 2.

**for (int i = 0; i < 50; ++i)**

**array[i] \*= 2;**

6. Write the statements to add up those elements of an array of ints (of size 25) which have an even subscript.

**int accumulator = 0;**

**for (int i = 0; i < 25; ++i)**

**accumulator += array[i] \* ((i + 1) % 2);**

7. Write the statements to add up those elements of an array of ints (of size 25) which have an even value.

**int accumulator = 0;**

**for (int i = 0; i < 25; ++i)**

**accumulator += array[i] \* ((array[i] + 1) % 2);**

8. What will the following program segment print?

int main()

{

int nums[10];

int i;

for (i = 9 ; i >= 0 ; i--)

{

nums[i] = 5 \* (i + 1);

cout << nums[i] << " ";

}

cout << endl;

for (i = 0 ; i < 9 ; i++)

cout << nums[i] << " ";

cout << endl;

for (i = 0 ; i < 9 ; i++)

nums[i+1] = nums[i];

for (i = 0 ; i < 9 ; i++)

cout << nums[i] << " ";

cout << endl;

}

**50 45 40 35 30 25 20 15 10 5**

**5 10 15 20 25 30 35 40 45**

**5 5 5 5 5 5 5 5 5**

9. What will the following program segment print?

int main()

{

int nums[10];

int i;

for (i = 9 ; i >= 0 ; i--)

{

nums[i] = 5 \* (i + 1);

cout << nums[i] << " ";

}

cout << endl;

for (i = 0 ; i < 9 ; i++)

cout << nums[i] << " ";

cout << endl;

for (i = 8 ; i >= 0 ; i--)

nums[i+1] = nums[i];

for (i = 0 ; i < 9 ; i++)

cout << nums[i] << " ";

cout << endl;

}

**50 45 40 35 30 25 20 15 10 5**

**5 10 15 20 25 30 35 40 45**

**5 5 10 15 20 25 30 35 40**

10. Given: int temps[50];

Write the statements to print "yes" if any element of the array

temps contains the value 100.

**for (int i = 0; i < 50; ++i) {**

**if (temps[i] == 100) {**

**cout << “yes”;**

**break;**

**}**

**}**

11. Given: int temps[50];

Write the statements to set the variable **found** to true if any

element of the array temps contains the value 100. If not, the

variable **found** should be false.

**for (int i = 0; i < 50; ++i) {**

**if ((found = (temps[i] == 100)))**

**break;**

**}**