Test 4 (Chapter 7)

(12/3/2021)

Duration: 40 minutes

Part A (70%, 3.5 points per question)

Please select the right answer from the following questions.

1. Which statement is true about an uninitialized pointer?
2. It may point to a memory location that a program does not own
3. It always has the value null
4. It will always point to a memory location that a program owns
5. It will never cause a problem in a program
6. A pointer describes which of the following?
7. What a certain value in memory is
8. Where a certain value in memory is
9. When a certain value is in memory
10. The size of a certain value in memory
11. Which of the following statements is true about pointers?
12. Pointers contain values as well as addresses of variables.
13. Pointers contain address locations of variables.
14. Pointers do not have any address location of their own.
15. Pointers occupy permanent storage locations inside the hard disk.
16. What is true about the statement given below?

int\* choice;

1. choice is an integer variable
2. choice contains the memory location of an integer variable
3. choice can store two memory addresses simultaneously
4. choice can also store a string value
5. Which of the following is a legally correct way of declaring a variable that is a pointer to an integer?
6. int\* ptr
7. pointer<int> ptr
8. int& ptr
9. int ptr\*
10. Consider the code snippet below.

int ch = 100;

Which of the following is a legally correct way of obtaining the memory location of ch and printing it (the memory location) to standard output, based on the given code snippet?

1. cout << ch << endl;
2. cout << \*ch << endl;
3. cout << &ch << endl;
4. cout << \*(&ch) << endl;
5. What is displayed when you execute the following code snippet?

int ch = 100;

cout << &ch << endl;

1. The value of ch
2. The memory location of ch
3. The value at the memory location of 100
4. None of the listed items
5. What is the output of the following code snippet?

int num = 0;

int\* ptr = &num;

\*ptr = 80;

num = 90;

cout << \*ptr << endl;

1. 0
2. 80
3. 90
4. the address of num
5. What is the problem with the following code snippet?

double\* acc\_ptr;

\*acc\_ptr = 1000;

1. There is no problem.
2. There is a compilation error.
3. The acc\_ptr variable is never initialized.
4. The second statement assigns an integer to a pointer.
5. Which location of the array arr does ptr point to right after you assign an array to a pointer variable, as shown in the following code snippet?

int arr[10];

int\* ptr = arr;

1. arr[0]
2. arr[1]
3. arr[10]
4. You cannot assign an array to a pointer.
5. What is the output of the code snippet given below?

int arr[5] = { 1, 2, 3, 4, 5 };

int\* ptr = arr;

cout << "arr[0]” << " contains a value of " << \*ptr << endl;

1. There is no output due to a compilation error.
2. There is no output due to a run-time error.
3. arr[0] contains a value of 0
4. arr[0] contains a value of 1
5. Which of the following options does the array/pointer duality law state?
6. a[n] is the same as \*a + n
7. a[n] is the same as a->n
8. a[n] is the same as \*(a + n)
9. a[n] is the same as (a + \*n)
10. Consider the code snippet below.

int arr[5] = { 1, 2, 3, 4, 5 };

Which of the following is the value of \*(arr + 2)?

1. 1
2. 2
3. 3
4. 4
5. Which of the following statements hold true when you want to pass an array to a function?
6. You cannot pass an array to a function.
7. You have to pass all the values of the array as parameters to the function.
8. A function always receives the starting address of the array.
9. The function cannot make changes to the array.
10. Suppose that you declare an array int num[10]. Assuming the function declaration statement given below, what would you use to pass the array to the given function?

int sum\_array(int arr[])

{

}

1. sum\_array(num)
2. sum\_array(num[0])
3. sum\_array(\*num)
4. sum\_array(&num)
5. What is the output of the following code snippet?

char name[] = "Harry Houdini";

name[3] = 'v';

cout << name << endl;

1. Harry Houdini
2. Harvy Houdini
3. Havry Houdini
4. Harry Houdiniv
5. What is the output of the following code snippet?

int marks = 0;

char\* str\_marks = "350";

marks = atoi(str\_marks);

cout << marks << endl;

1. 3
2. 350
3. There is no output due to a compilation error.
4. There is no output due to a run-time error.
5. You have declared the following string variable: string name = "Houdini"; Which of the following statements is a legal assignment statement?
6. string\* strp = name.c\_str();
7. string str = c\_str(name);
8. const char\* cstr = name.c\_str();
9. const char\* cstr = c\_str(name);
10. How can you access the character 'r' in the following C++ string?

string name = "Peter";

1. char last = name[4];
2. char last = name[5];
3. char last = name.substr(5);
4. char last = name.substr(4, 5);
5. What is the output of the following code snippet?

int num = 0;

int\* ptr = &num;

num = 5;

\*ptr = \*ptr + 5;

cout << num << " " << \*ptr << endl;

1. 5 5
2. 5 10
3. 10 5
4. 10 10