

Midterm 3 Study Guide

Due No due date Points 25 Questions 25 Time Limit 30 Minutes Allowed Attempts Unlimited

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Attempt History

	Attempt	Time	Score
KEPT	Attempt 4	21 minutes	23 out of 25
LATEST	Attempt 9	20 minutes	20 out of 25
	Attempt 8	21 minutes	20 out of 25
	Attempt 7	25 minutes	21.5 out of 25
	Attempt 6	25 minutes	21 out of 25
	Attempt 5	30 minutes	17 out of 25
	Attempt 4	21 minutes	23 out of 25
	Attempt 3	26 minutes	19.89 out of 25
	Attempt 2	30 minutes	22.5 out of 25
	Attempt 1	27 minutes	21 out of 25

Correct answers are hidden.

Submitted Jul 13 at 3:29am

Question 11 / 1 pts

The statement `#if abs(-3) > 2` is legal.

- ☐ True
- ☒ False

Question 21 / 1 pts

What preprocessor directive *is not used* when you wish to create blocks of code that are only compiled under certain circumstances?

- ☒ All of these may be used
- ☐ `#define`
- ☐ `#ifdef`
- ☐ `#ifndef`
- ☐ `#if`

Question 31 / 1 pts

A loop that reads data until some special value is found is called a sentinel loop.

- ☒ True
- ☐ False

Question 41 / 1 pts

What happens when you execute the following (erroneous) code:

```
istreamstring in("one");
int n;
in >> n;
```

- ☐ The stream is put into a failed state, so the program terminates
- ☐ The program prints an error message, but continues running
- ☐ The program prints an error message and unconditionally terminates
- ☒ The stream is put into a failed state, but the program continues running
- ☐ The code will not compile, since "one" is not convertible to an int.

Question 51 / 1 pts

After writing data to an `ostringstream` object named `os`, you can retrieve the `string` it contains by using:

- ☐ `to_string(os)`

☐ os.to_string()

☐ static_cast<string>(os);

☒ os.str()

☐ None of these

Question 6

1 / 1 pts

In the ***loop-and-a-half pattern***, you read data before the loop and at the end of the loop.

☐ True

☒ False

Question 7

1 / 1 pts

Which of the following loop patterns are used here?

```
int upper = 0;
char ch;
while (in.get(ch))
{
    if (ch >= 'A' && ch <= 'Z')
        upper++;
}
```

☐ counter-controlled loop

☐ primed loop

☐ limit loop

☐ iterator or range loop

☐ sentinel loop

☒ data loop

☐ loop-and-a-half

☒ inline test

Question 8

1 / 1 pts

Variables tested with the #if preprocessor directive are created using #define.

☒ True

☐ False

Question 9

1 / 1 pts

Which line fails to work correctly?

```
template <typename T>
void print(const T& item)
{
    cout << item << endl;
}
```

☐ print(string("goodbye"));

☐ print("hello");

☐ print(2 + 2);

☒ None of these

☐ print(3 + 2.2);

Question 10

1 / 1 pts

The declaration: vector<int> v; creates a vector object with no elements.

☒ True

☐ False

Incorrect

Question 11

0 / 1 pts

Which line will not compile?

```
int main()
{
    vector<int> v{1, 2, 3};
    auto size = v.size();

    cout << v.back() << endl;      // 1.
    cout << v.front() << endl;     // 2.
    cout << v.at(0) << endl;       // 3.
    cout << v.at(size) << endl;    // 4.
    cout << v.pop_back() << endl;  // 5.
}
```

☐ 2

☒ 1

☐ 4

☐ 5

☐ 3



Incorrect

Question 12

0 / 1 pts

A vector subscript represents the element's counting position.

☒ True

☐ False

Question 13

1 / 1 pts

The declaration: `vector<int> v(10);` creates a vector object containing ten elements initialized to 0.

☒ True

☐ False

Question 14

1 / 1 pts

Examine the following code. Which element is erased?

```
vector<int> v{1, 2, 3};
v.erase(begin(v) + 1);
```

☐ 3

☐ Does not compile

☐ Compiles but no element is erased

☒ 2

☐ 1

Question 15

1 / 1 pts

When using the STL function `count_if`, the third argument is:

☐ `cbegin(v)`

☐ the value to count

☒ a predicate function

☐ `cend(v)`

☐ None of these

Question 16

1 / 1 pts

The declaration: `vector<string> v(5);` creates a vector containing five empty string objects.

☒ True

☐ False



Question 17		1 / 1 pts
User-defined types that contain a single value are called <i>scalar</i> types.		
<div><div><input checked="" type="radio"/> True</div><div><input type="radio"/> False</div></div>		

Question 18		1 / 1 pts
Which of these lines correctly prints 2.5?		
<pre>struct S { int a = 3; double b = 2.5; }; S obj, *p = &obj;</pre>		
<div><div><input type="radio"/> cout << *(p.b) << endl;</div><div><input type="radio"/> cout << *p->b << endl;</div><div><input type="radio"/> cout << *p.b << endl;</div><div><input type="radio"/> cout << *(p).b << endl;</div><div><input checked="" type="radio"/> cout << p->b << endl;</div></div>		

Question 19		1 / 1 pts
The subscripts of a C++ array range from 0 to the allocated array size -1.		
<div><div><input checked="" type="radio"/> True</div><div><input type="radio"/> False</div></div>		

Question 20		1 / 1 pts
The elements of a C++ array created in a function are allocated on the stack.		
<div><div><input checked="" type="radio"/> True</div><div><input type="radio"/> False</div></div>		

Question 21		1 / 1 pts
What is the address of the first pixel in the last row of this image?		
<pre>Pixel *p; // address of pixel data int w, h; // width and height of image</pre>		
<div><div><input type="radio"/> p + w + (h - 1)</div><div><input checked="" type="radio"/> p + w * (h - 1)</div><div><input type="radio"/> p + w + h</div><div><input type="radio"/> p + w * h</div><div><input type="radio"/> None of these are correct</div></div>		

Question 22		1 / 1 pts
A forward reference can be used when you want to use a pointer to a structure as a data member without first defining the entire structure.		
<div><div><input checked="" type="radio"/> True</div><div><input type="radio"/> False</div></div>		

Incorrect	Question 23	0 / 1 pts
If <i>p</i> is a pointer to a structure, and the structure contains a data member <i>x</i> , you can access the data member by using the notation: <i>*p.x</i>		

☒ True

☐ False

Incorrect

Question 24

0 / 1 pts

In C++ initializing an array with the contents of another is permitted.

☒ True

☐ False

Incorrect

Question 25

0 / 1 pts

If `size_t Len = 0`; then `Len - 1` is the smallest possible unsigned number.

☒ True

☐ False

