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
LATEST	Attempt 1	27 minutes	21 out of 25

Correct answers are hidden.

Submitted Jul 11 at 11:15pm

Question 1

1 / 1 pts

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

- (•) True
- ( ) False

Question 2

1 / 1 pts

To use different versions of a function depending on the platform is called ***conditional compilation***.

- (•) True
- ( ) False

Question 3

1 / 1 pts

A function template may be defined in a header file.

- (•) True
- ( ) False

Incorrect

Question 4

0 / 1 pts

To use strings as a data stream source or sink, use the `<stringstream>` header

- (•) True
- ( ) False

Question 5

1 / 1 pts

In the ***primed loop pattern***, you read data before the loop and at the end of the loop.

- (•) True
- ( ) False

Question 6

1 / 1 pts

What statement is used to signal other parts for your program that a particular error has occurred?

- ( ) `try`
- ( ) `catch`
- (•) `throw`
- ( ) `raise`
- ( ) `return`
- ( ) None of these

Question 7

1 / 1 pts

In the ***loop-and-a-half***, you use a `break` statement to exit the loop when the sentinel is found.

- (•) True
- ( ) False

Incorrect

Question 8

0 / 1 pts

What happens with the following section of code?

```
cout << "Enter 1, 2 or 3: ";
int n;
cin >> n;
#if n == 1
    cout << "You entered 1" << endl;
#elif n == 2
    cout << "You entered 2" << endl;
#elif n == 3
    cout << "You entered 3" << endl;
#else
    cout << "Invalid value" << endl;
#endif
```

- ( ) Compiles, but only prints "Invalid value"
- ( ) Compiles, but always print "You entered 1"
- (•) Does not compile
- ( ) Compiles and prints the correct value entered by the user.

Question 9

1 / 1 pts

Which call below produces 5?

```
template <typename T>
void addem(T a, T b)
{
    cout << a << " + " << b << "->"
        << (a + b) << endl;
}
```

- ( ) None of these
- ( ) `addem<double>(3, 2.5);`
- ( ) `addem(3, 2.5);`
- ( ) `addem(3.0, 2.5)`
- (•) `addem<int>(3, 2.5);`

Incorrect

Question 10

0 / 1 pts

Assuming the following variable definition, which statement creates an object which refers to a position immediately following the last element in **v** and which allows you to change the elements in **v**?

```
vector<double> v{1.2, 2.3, 3.4};
```

- ( ) `auto d = cend(v);`
- ( ) `auto a = begin(v);`
- (•) None of these
- ( ) `auto b = end(v);`
- ( ) `auto c = cbegin(v);`

Question 11

1 / 1 pts

What does this code do?

```
int x = 0;
vector<int> v{1, 3, 2};
for (auto e : v) e += x;
cout << x << endl;
```

- [ ] Finds the last element in v
- [ ] Sums the elements in v
- [ ] Prints 2
- [x] Prints 0

- [ ] Finds the largest element in v
- [ ] Prints 6

Question 12

1 / 1 pts

Which statement is false? The elements in a vector:

- [ ] are all of the same type
- [ ] are stored next to each other in memory
- [ ] are homogeneous
- [ ] None of these
- [x] are accessed by name

Question 13

1 / 1 pts

What prints when this code runs?

```
enum class Coin
{
   PENNY = 1, NICKEL, DIME, QUARTER
};
cout << static_cast<int>(Coin::DIME) << endl;
```

- [ ] 2
- [ ] Does not compile; Missing semicolon at end of list of members.
- [ ] 10
- [x] 3

Incorrect

Question 14

0 / 1 pts

Examine the following code. Which element is erased?

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

- [x] 2
- [ ] Compiles but no element is erased
- [ ] Does not compile
- [ ] 3
- [ ] 1

Question 15

1 / 1 pts

A `vector` represents a linear homogeneous collection of data.

- [x] True
- [ ] False

Question 16

1 / 1 pts

What is x?

```
vector<int> v{1, 2, 3};
auto x = max_element(v.begin(), v.end());
```

- [ ] 3
- [ ] None of these
- [ ] a `std::pair` object
- [x] an iterator
- [ ] 1

Question 17

1 / 1 pts

What prints?

```
void f(vector<int>& v)
{
    v.at(0) = 42;
}
int main()
{
    vector<int> x{1, 2, 3};
    f(x);
    cout << x.at(0) << endl;
}
```

- 1
- 42
- Nothing; run-time error.
- Nothing; linker error
- Nothing; compile-time error.

Question 18

1 / 1 pts

A forward reference can be used when you want to use a structure as a data member without first defining the entire structure.

- True
- False

Question 19

1 / 1 pts

In C++ an array variable and the array elements are separate. The array variable contains the address of the first element in the array.

- True
- False

Question 20

1 / 1 pts

Which expression obtains the value that ***p*** points to?

```
int x(100);
int *p = &x;
```

- *p
- p
- &p
- *(&p)
- &(*p)

Question 21

1 / 1 pts

The elements of a C++ array created outside of a function are allocated in the static-storage area.

- True
- False

Question 22

1 / 1 pts

Which array definition is illegal (even if it may compile on some compilers)?

```
int SIZE = 3;
int a1[SIZE];
int a2[3];
int a3[3]{};
int a4[] = {1, 2, 3};
int a5[3] = {1, 2};
```

- a1
- a3

- a5
- None of these
- a2

Question 23

1 / 1 pts

Here is a fragment of pseudocode for the ***negative()*** function from your homework. What statement represents the underlined portion of code?

```
Let p point to beginning of the image
Let end be pixel one past the end of the image
While p != end
    Invert the red component
    Move p to next component
```

- None of these
- p++;
- *p = p + 1;
- *p++;
- &p++;

Question 24

1 / 1 pts

Examine the following code. What is stored in ***b*** after it runs.

```
int f(int * p, int x)
{
    *p = x * 2;
    return x / 2;
}
. . .
int a = 3, b, c;
c = f(&b, a);
```

- 2
- 3
- 6
- Does not compile
- 1

Question 25

1 / 1 pts

Which expression returns the number of countries?

```
string countries[] = {"Andorra", "Albania", . . . };
```

- len(countries)
- sizeof(countries) * sizeof(countries[0])
- sizeof(countries) / sizeof(countries[0])
- sizeof(countries)
- None of these