Midterm 2 Study Guide Results

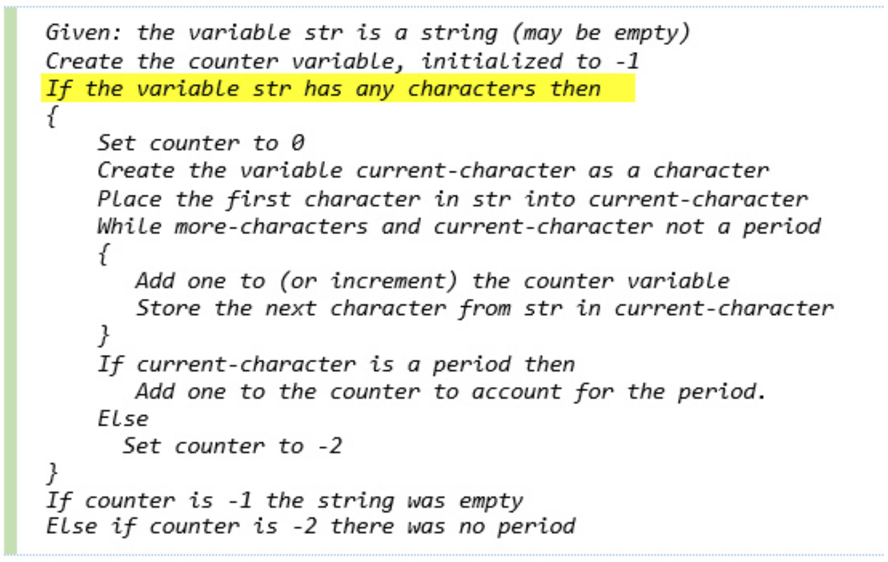
ⓘ Correct answers are hidden.

Submitted Jun 28 at 11:09am

Question 1

1 / 1 pts

The highlighted section below illustrates.
If the variable str has any characters then:



```
Given: the variable str is a string (may be empty)
Create the counter variable, initialized to -1
If the variable str has any characters then
{
    Set counter to 0
    Create the variable current-character as a character
    Place the first character in str into current-character
    While more-characters and current-character not a period
    {
       Add one to (or increment) the counter variable
       Store the next character from str in current-character
    }
    If current-character is a period then
       Add one to the counter to account for the period.
    Else
      Set counter to -2
}
If counter is -1 the string was empty
Else if counter is -2 there was no period
```

○ an intentional condition

○ a necessary condition

○ a boundary condition

○ None of these

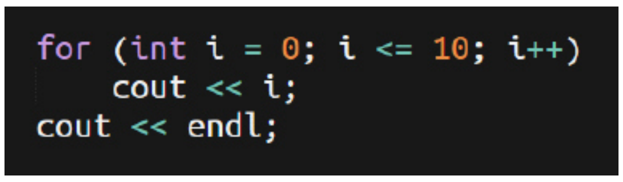
● a loop guard

○ a postcondition

Question 2

1 / 1 pts

How many times is this loop ***entered***? (*That is, how many times is i printed?*)



```
for (int i = 0; i <= 10; i++)
    cout << i;
cout << endl;
```

● 11

○ 10

○ 9

○ Never

Question 3

1 / 1 pts

In an ***unguarded*** loop, the loop actions are always executed at least once.

● True

○ False

Question 4

1 / 1 pts

The highlighted section below illustrates.
While more-characters:

```
Given: the variable str is a string (may be empty)
Create the counter variable, initialized to -1
If the variable str has any characters then
{
    Set counter to 0
    Create the variable current-character as a character
    Place the first character in str into current-character
    While more-characters and current-character not a period
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}
If counter is -1 the string was empty
Else if counter is -2 there was no period
```

○ a boundary condition

○ a postcondition

● a necessary condition

○ None of these

○ a loop guard

○ an intentional condition

Question 5

1 / 1 pts

Loop bounds used when searching through input.

○ data bounds

● sentinel bounds

○ limit bounds

○ None of these

Question 6

1 / 1 pts

Below is the illustration from the loop building strategy. The ***highlighted lines*** represent.
Add one to (or increment) the counter variable:

```
Given: the variable str is a string (may be empty)
Create the counter variable, initialized to -1
If the variable str has any characters then
{
    Set counter to 0
    Create the variable current-character as a character
    Place the first character in str into current-character
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      Set counter to -2
}
If counter is -1 the string was empty
Else if counter is -2 there was no period
```

○ loop postcondition

○ bounds precondition

○ goal precondition

● goal operation

○ loop bounds

○ advancing the loop

Question 7

1 / 1 pts

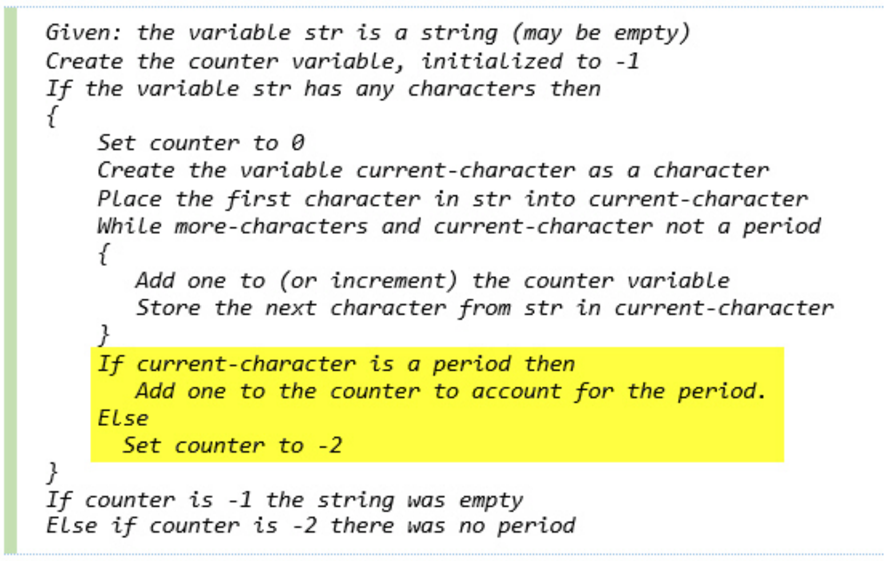
Match each item with the correct question below.

What must I change in the test to go to the next iteration?	advance the loop
Can my loop reach its bounds?	necessary bounds
Has my loop reached its goal?	loop postcondition
What makes this loop quit?	loop bounds

Question 8

1 / 1 pts

Below is the illustration from the loop building strategy. The ***highlighted lines*** represent.
If current-character is a period then:



```
Given: the variable str is a string (may be empty)
Create the counter variable, initialized to -1
If the variable str has any characters then
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    Else
      Set counter to -2
}
If counter is -1 the string was empty
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```

○ loop bounds

● loop postcondition

○ bounds precondition

○ goal precondition

○ advancing the loop

○ goal operation

Question 9

1 / 1 pts

In the classic *for* loop, which portion of code is not followed by a semicolon?

○ None of these

● update expression

○ condition expression

○ initialization statement

Question 10

1 / 1 pts

Which of these are ***targets***?

```
EXE=digit-tester
OBJS=client.o digits.o
$(EXE): $(OBJS)
    $(CXX) $(CXXFLAGS) $(OBJS) -o $(EXE)
```

□ `client.o`

□ None of these

☑ `$(EXE)`

☑ `digit-tester`

□ `digits.o`

Question 11

1 / 1 pts

Which of these documentation tags are used in a ***file comment?***

☑ `@version`

☑ `@author`

□ `@endcode`

□ `@return`

Question 12

1 / 1 pts

What kind of error is this?

```
Segmentation fault
```

○ Syntax error (mistake in grammar)

● Operating system signal or trap

○ Type error (wrong initialization or assignment)

○ Linker error (something is missing when linking)

○ None of these

○ Runtime error (throws exception when running)

○ Compiler error (something is missing when compiling)

Question 13

1 / 1 pts

What prints?

```
void fn(int, double, double&) { cout << "A" << endl; }
void fn(int, int, double&) { cout << "B" << endl; }
void fn(int, int, double) { cout << "C" << endl; }
void fn(int, int, int) { cout << "D" << endl; }

int main()
{
    fn(1, 2, 3.5);
}
```

○ D

○ Syntax error: no candidates

○ B

● C

○ Syntax error: ambiguous

○ A

Question 14

1 / 1 pts

How many lines of output are printed?

```
int count = 0;
while (count != 9)
{
    cout << "Monster Mash" << endl;
    if ((count % 2) == 0)
    {
        count++;
    }
    else
    {
        count--;
    }
}
```

● Infinite

○ 10

○ 8

○ 9

Question 15

1 / 1 pts

What prints here?

```
int i = 5;
while (i--) cout << i;
cout << endl;
```

○ 4321

○ Syntax error: `i--` is not a Boolean expression

○ Infinite loop

● 43210

○ 54321

Question 16

1 / 1 pts

Examine the following variables and function calls
Match each item with the correct statement below.

```
int able = 3;
int baker = f1(able);
cout << able << baker << endl; // 64

string charlie;
f2("hello", charlie);
cout << charlie << endl; // Hello Carl
```

Returned value	baker
Output argument (parameter)	charlie
Input argument (parameter)	hello
Input/output argument (parameter)	able

Question 17

1 / 1 pts

What is the output of the following?

```
bool token1 = true;
while (token1)
{
    for (int i = 0; i < 5; i++)
    {
        cout << "Hello there" << endl;
    }
    token1 = false;
}
```

● “Hello there” will be displayed 5 times.

○ “Hello there” will be displayed infinite times.

○ No output because of compilation error.

○ No output.

Question 18

1 / 1 pts

Two quantities *a* and *b* are said to be in the *golden ratio* if $\frac{(a+b)}{a}$ is equal to $\frac{a}{b}$. Assuming *a* and *b* are line segments, the *golden section* is a line segment divided according to the golden ratio: The total length *(a + b)* is to the longer segment *a* as *a* is to the shorter segment *b*. One way to calculate the golden ratio is through the continued square root (also called an *infinite surd*): golden ratio = $\sqrt{1+\sqrt{1+\sqrt{1+\sqrt{1+\ldots}}}}$. In a recursive implementation of this function, what should be the *base case* for the recursion?

○ `if (number <= 1) { return pow(number, 2.0);}`

○ `if (number <= 1) { return sqrt(number);}`

● `if (number <= 1) { return 1.0;}`

○ `if (number <= 1) { return 0.0;}`

Question 19

1 / 1 pts

After opening the input stream `in`, which of these ***cannot be used*** to see if the file was successfully opened?

○ `if (in.bad()) {/* couldn't open */}`

○ `if (in.fail()) {/* couldn't open */}`

○ `if (in.good()) {/* opened ok */}`

● `if (in.opened()) {/* opened ok */}`

○ `if (in) { /* opened ok */ }`

Question 20

1 / 1 pts

`ls -A | sort | lc` is called a pipeline

● True

○ False

Question 21

1 / 1 pts

The file `temp.txt` contains "`Orange Coast College`". What prints?

```
ifstream in("temp.txt");
char c;
while (in.get(c))
{
    if (isupper(c))
        cout << toupper(c);
}
```

○ `oRANGE cOAST cOLLEGE`

● `OCC`

○ `range oast ollege`

○ `occ`

○ `ORANGE COAST COLLEGE`

Question 22

1 / 1 pts

`cat < a.txt > b.txt` erases the contents of `b.txt` before writing to it.

● True

○ False

Question 23

1 / 1 pts

The expression `cin.get(ch)` returns a reference to the input stream.

● True

○ False

Question 24

1 / 1 pts

The Unix filter used to read and display output is named `type`.

○ True

● False

Question 25

1 / 1 pts

Formatted I/O means that you read and write data line-by-line.

○ True

● False