Q-07

Due No due date **Points** 18 **Questions** 18 **Time Limit** 30 Minutes **Allowed Attempts** Unlimited

Take the Quiz Again

Attempt History

	Attempt	Time	Score
KEPT	Attempt 5	30 minutes	13 out of 18
LATEST	Attempt 5	30 minutes	13 out of 18
	Attempt 4	30 minutes	11.75 out of 18
	Attempt 3	19 minutes	13 out of 18
	Attempt 2	30 minutes	11.5 out of 18
	Attempt 1	30 minutes	5.25 out of 18

Correct answers are hidden.

Submitted Jun 29 at 12:38am

Question 1 — 1 / 1 pts

Below is the illustration from the loop building strategy. The ***highlighted lines*** represent.
Set counter to 0:

```
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
```

- loop bounds
- [✓ goal precondition]
- bounds precondition
- advancing the loop
- loop postcondition
- goal operation

Question 2 — 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
What must I do to enter the loop?	bounds precondition
Has my loop reached its goal?	loop postcondition
Can my loop be entered at all?	

loop guards

Question 3

1 / 1 pts

Which line ***advances the loop***?

```
1.      string s("Hello CS 150");
2.      while (s.size())
3.      {
4.         if (s.at(0) == 'C') break;
5.         s = s.substr(1);
6.      }
7.      cout << s << endl;
```

- [✓ 5]
- None of these
- 4
- 2

Question 4

1 / 1 pts

Below is the illustration from the loop building strategy. The ***highlighted lines*** represent.
Create the variable current-character as a character:

```
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
```

- advancing the loop
- loop postcondition
- goal operation
- goal precondition
- loop bounds
- [✓ bounds precondition]

Question 5

1 / 1 pts

Below is the illustration from the loop building strategy. The ***highlighted lines*** represent.
While more-characters and current-character not a period:

```
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
```

- advancing the loop
- bounds precondition
- goal precondition
- [✓ loop bounds]
- loop postcondition
- goal operation

Question 6

1 / 1 pts

Below is the illustration from the loop building strategy. The ***highlighted lines*** represent.
Store the next character from str in current-character:

```
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
```

- [✓ advancing the loop]
- goal precondition
- loop postcondition
- bounds precondition
- loop bounds
- goal operation

Question 7

1 / 1 pts

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

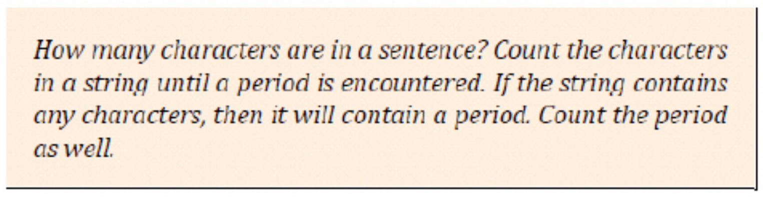
```
Given: the variable str is a string (may be empty)
Create the counter variable, initialized to -1
If the variable str has any characters then
{
    Set counter to 0
    Create the variable current-character as a character
    Place the first character in str into current-character
    While more-characters 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
```

- loop bounds
- advancing the loop
- goal precondition
- [✓ goal operation]
- loop postcondition
- bounds precondition

Question 8

1 / 1 pts

Look at the problem statement below. The __________ of the loop is that a period was encountered.


How many characters are in a sentence? Count the characters in a string until a period is encountered. If the string contains any characters, then it will contain a period. Count the period as well.

- goal
- None of these
- plan
- [✓ bounds]

Question 9

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 10

1 / 1 pts

The highlighted section below illustrates.
current-character not a period:

```
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
```

- a necessary condition
- a loop guard
- [✓ an intentional condition]
- None of these
- a boundary condition
- a postcondition

Question 11

1 / 1 pts

In H05, here is the pseudocode for the loop body. What line of code needs to appear immediately after the loop body to make the algorithm complete?

```
sum <- 0
number <- 0
for each character in str
   Set current character -> ch
   If ch is a digit then
      digit <- ascii-to-decimal(ch)
      number <- number * 10
      number <- number + digit
   Else
      sum <- sum + number
      number <- 0
```

- `sum = number + digit;`
- [✓ `sum += number;`]
- `number = number + sum;`
- None of these answers is correct
- `number = number + digit;`

Question 12

1 / 1 pts

In H05, here is code for the loop that is used. What is the underlined portion?

```
for (size_t i{0}, len{str.size()}; i < len; ++i)
{
}
```

- the loop postcondition
- the bounds precondition
- [✓ the loop bounds]

- advancing the loop
- the goal precondition
- the loop operation

Incorrect

Question 13

0 / 1 pts

In `H05`, here is the pseudocode for the loop body. What code would you use to see if a character was a digit?

```
sum <- 0
number <- 0
for each character in str
   Set current character -> ch
   If ch is a digit then
      digit <- ascii-to-decimal(ch)
      number <- number * 10
      number <- number + digit
   Else
      sum <- sum + number
      number <- 0
```

- `if (digit >= 0 && digit <= 9)`
- `if (digit >= "0" && digit <= "9")`
- [✓ None of these answers is correct]
- `if (digit >= '0' || digit <= '9')`
- `if (isdigit(digit)`

Question 14

1 / 1 pts

In `H05`, here is code for the loop that is used. What is the underlined portion?

```
for (size_t i{0}, len{str.size()}; i < len; ++i)
{
}
```

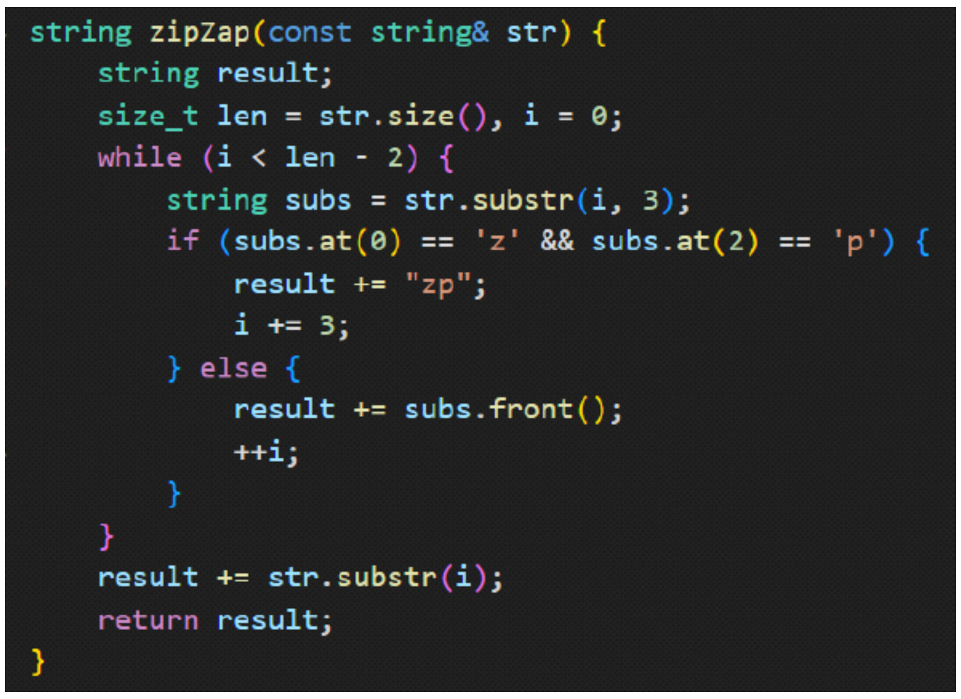
- advancing the loop
- [✓ the bounds precondition]
- the loop operation
- the loop bounds
- the loop postcondition
- the goal precondition

Incorrect

Question 15

0 / 1 pts

Here is an implementation of `zipZap()` from `H06`. What is its problem?



```cpp
string zipZap(const string& str) {
    string result;
    size_t len = str.size(), i = 0;
    while (i < len - 2) {
        string subs = str.substr(i, 3);
        if (subs.at(0) == 'z' && subs.at(2) == 'p') {
            result += "zp";
            i += 3;
        } else {
            result += subs.front();
            ++i;
        }
    }
    result += str.substr(i);
    return result;
}
```

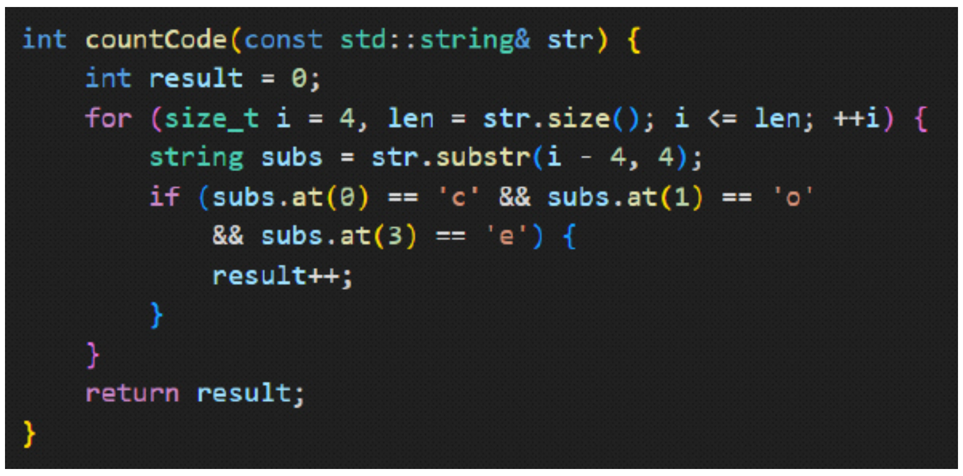
- It does not produce the correct output for strings of size less than 3
- [✓ It should use `subs.at(0)` instead of `subs.front()` since it's more efficient]
- It produces the correct output, but is less efficient than it could be
- There is no problem. It works correctly and is efficient.
- It does not compile

Unanswered

Question 16

0 / 1 pts

Here is an implementation of `countCode()` from `H06`. What is its problem?



```cpp
int countCode(const std::string& str) {
    int result = 0;
    for (size_t i = 4, len = str.size(); i <= len; ++i) {
        string subs = str.substr(i - 4, 4);
        if (subs.at(0) == 'c' && subs.at(1) == 'o'
            && subs.at(3) == 'e') {
            result++;
        }
    }
    return result;
}
```

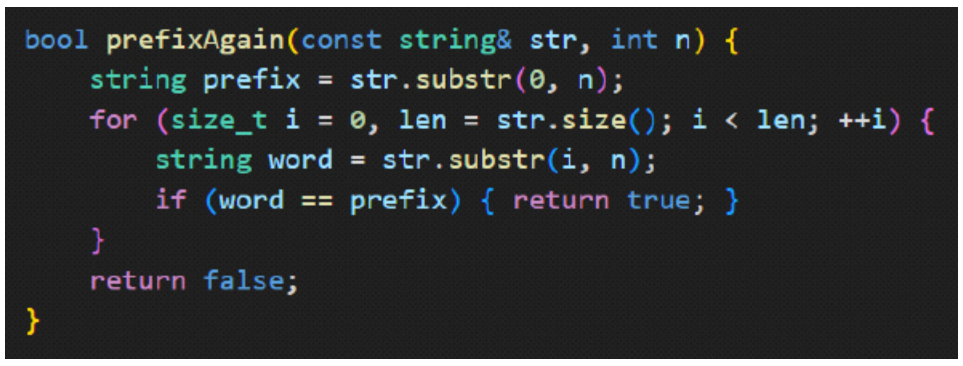
- There is no problem. It works correctly and is efficient.
- It compiles, but the loop condition should be `i < len;`
- It produces the correct output but performs more iterations than required
- It does not produce the correct output
- It does not compile

Unanswered

Question 17

0 / 1 pts

Here is an implementation of `prefixAgain()` from `H06`. What would improve it (in the sense of making it more correct or more efficient)?



```
bool prefixAgain(const string& str, int n) {
    string prefix = str.substr(0, n);
    for (size_t i = 0, len = str.size(); i < len; ++i) {
        string word = str.substr(i, n);
        if (word == prefix) { return true; }
    }
    return false;
}
```

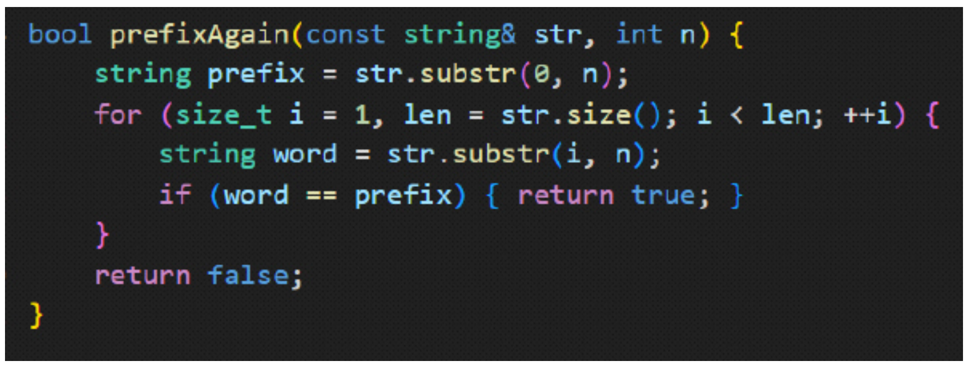
- Changing the condition `i < len` to `i < len - (n - 1)`
- Changing `str.substr(i, n)` to `str.substr(n)`
- Changing the condition `i < len` to `i < len - n`
- Use `word.equals(prefix)` instead of `word == prefix`
- Starting the loop with `1` instead of `0`

Unanswered

Question 18

0 / 1 pts

Here is an implementation of `prefixAgain()` from `H06`. What is its problem?



```
bool prefixAgain(const string& str, int n) {
    string prefix = str.substr(0, n);
    for (size_t i = 1, len = str.size(); i < len; ++i) {
        string word = str.substr(i, n);
        if (word == prefix) { return true; }
    }
    return false;
}
```

- The loop should start at `0`, not at `1`
- It does not compile because you can't use == with strings
- It compiles and runs without crashing, but never produces the correct output
- There is no problem. It works correctly and is efficient.
- It compiles and runs without crashing, but doesn't always produce the correct output