Q-08

Due No due date **Points** 16 **Questions** 15 **Time Limit** 30 Minutes **Allowed Attempts** Unlimited

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Attempt History

	Attempt	Time	Score
KEPT	Attempt 3	18 minutes	15.5 out of 16
LATEST	Attempt 4	29 minutes	13.5 out of 16
	Attempt 3	18 minutes	15.5 out of 16
	Attempt 2	18 minutes	12 out of 16
	Attempt 1	27 minutes	12 out of 16

Correct answers are hidden.

Submitted Jun 28 at 10:54pm

Question 1

2 / 2 pts

Match each item with the correct statement below.

File containing the declarations or prototypes	interface
Program which uses the functions in a library.	client
File containing the function definitions	implementation
File which contains instructions for building your program	makefile

Question 2

1 / 1 pts

In a library, the ***client*** or ***test*** program:

- consists of function definitions
- consists of instructions that produce the executable
- None of these
- consists of declarations or prototypes
- consists of function calls

Question 3

1 / 1 pts

In a library, the ***interface*** file:

- consists of declarations or prototypes
- consists of function calls
- consists of instructions that produce the executable
- None of these
- consists of function definitions

Question 4

1 / 1 pts

What kind of error is this?

```
ex1.cpp:7:9: warning: missing terminating '"' character
    a = "hello world';
        ^
ex1.cpp:7:9: error: expected expression
```

- None of these
- Operating system signal or trap
- Linker error (something is missing when linking)
- Compiler error (something is missing when compiling)
- Runtime error (throws exception when running)
- [x] Syntax error (mistake in grammar)
- Type error (wrong initialization or assignment)

Question 5

1 / 1 pts

What kind of error is this?

```
ex1.cpp:6:12: error: no viable conversion from 'int' to 'string'
    string a = 15;
           ^   ~~
```

- [x] Type error (wrong initialization or assignment)
- Runtime error (throws exception when running)
- None of these
- Linker error (something is missing when linking)
- Operating system signal or trap
- Syntax error (mistake in grammar)
- Compiler error (something is missing when compiling)

Question 6

1 / 1 pts

An incomplete, yet compilable, linkable and executable function is called a _____ ?

- declaration
- prototype
- None of these
- [x] stub

Partial

Question 7

0.5 / 1 pts

Which prototypes in the following header file contain errors?

```
#ifndef EXAMPLE_H
#define EXAMPLE_H

string f1(int a);
int f2(double);
void f3(std::string& s, int n);
double f4();

#endif
```

- [ ] *f3*
- [x] *f1*
- [ ] *f2*
- [ ] None of these
- [ ] *f4*

Question 8

1 / 1 pts

Match each item with the correct statement below.

Meaning of value returned from a function	@return
Begin a block of source code	@code
Information about the library	@version
Name and meaning for a parameter	@param

Question 9

1 / 1 pts

What is the output of the following?

```
int i = 1;
int sum = 0;
while (i <= 13)
{
    sum = sum + i;
    i = i + 3;
}
cout << "The value of sum is " << sum;
```

- [ ] The value of sum is 22
- [x] The value of sum is 35
- [ ] The value of sum is 0
- [ ] The value of sum is 13

Question 10

1 / 1 pts

Here is an implementation of `checkDigit()` from `H07`. What is its problem?

```
int checkDigit(int zip) {
    int sum = 0;
    while (zip != 0) {
        sum += zip % 10;
        zip /= 10;
    }
    return 10 - sum % 10;
}
```

- ○ It does not compile because you are missing the `else`
- ○ It skips one digit since you should divide by `10` **before** adding to `sum` instead of after
- ○ It produces the wrong output when `sum` is not evenly divisible by `10`
- ◉ It produces the wrong output if `sum` is evenly divisible by `10`
- ○ It compiles and produces the correct output in all cases

Incorrect

Question 11

0 / 1 pts

Here is an implementation of `checkDigit()` from `H07`. What is its problem?

```
int checkDigit(int zip) {
    int sum;
    while (zip != 0) {
        sum += zip % 10;
        zip /= 10;
    }
    if (sum % 10 == 0)
        return 10 - sum % 10;
    return 0;
}
```

- ○ It does not compile because `sum` is never initialized
- ○ It compiles and produces the correct output in all cases
- ○ It compiles but produces undefined behavior because `sum` is never initialized
- ◉ It does not compile because you are missing the `else`
- ○ It produces the wrong output only if `sum` is evenly divisible by `10`

Incorrect

Question 12

0 / 1 pts

Here is an implementation of `barCode()` from `H07`. What is its problem?

```
string barCode(int zip) {
    string result;
    int check = checkDigit(zip);
    while (zip != 0) {
        result = codeForDigit(zip % 10) + result;
        zip /= 10;
    }
    result += codeForDigit(check);
    return "|" + result + "|";
}
```

- ○ It does not compile

It produces the wrong output because the bars are in the wrong order

It produces the wrong output since it returns extra bars at the beginning and end

It produces the wrong output since the check digit is supposed to be added to the beginning

It compiles and produces the correct output in all cases

Question 13

1 / 1 pts

In `H08` you need to complete the `digit()` function. What should replace the blank line below?

```
string digit(int digit, const string& symbols)
{
    string one = symbols.substr(0, 1);
    string five =
    string ten = symbols.substr(2, 1);
```

None of these are correct

`symbols.substr(0, 2);`

`symbols.substr(1, 1);`

`symbols.substr(0, 1);`

`symbols.substr(1, 2);`

Question 14

1 / 1 pts

In `H08`, the `ones()`, `tens()` and `hundreds()` functions are already written. You need to complete the `digit()` function. Once you have completed it, what is the expected output for the code below?

```
inline string ones(int n) { return digit(n, "IVX"); }
string digit(int digit, const string& symbols) { . . . }
cout << ones(3) << endl;
```

XXX

I

VVV

V

III

Using the "ones" symbols, 3 is III in Roman Numerals.

Question 15

1 / 1 pts

In `H08`, the `ones()`, `tens()` and `hundreds()` functions are already written. You need to complete the `digit()` function. Once you have completed it, what is the expected output for the code below?

```
inline string hundreds(int n) { return digit(n, "CDM"); }
string digit(int digit, const string& symbols) { ... }
cout << hundreds(4) << endl;
```

- CD
- CM
- DM
- DC
- CDM