Question 1 (10 points)

Consider the following program fragment that contains the `DoSomething` function prototype and array declarations:

```c
const int size = 3;
void DoSomething(int a[], int length);
int first[size] = {1, 2, 3},
second[size] = {8, 9, 10},
```
third[size] = {-4, -2, -1};

Indicate whether the statement:

    third[0] = second[first[1]]; 

is allowed, (syntactically legal, no compiler error), in C++. Be careful with this one the question is about official ANSI C/C++ and assumes that the program does not do any operator overloading.

100.0% ▶ 1. yes, syntax is legal
2. no, syntax is illegal

Score: 10.0 / 10.0

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Question 2 (10 points)

Consider the following program fragment that contains the DoSomething function prototype and array declarations:

    const int size = 3;
    void DoSomething(int a[], int length);
    
    int first[size] = {1, 2, 3},
    second[size] = {8, 9, 10},
    third[size] = {-4, -2, -1};

Indicate whether the statement:

    third = first + second;

is allowed, (syntactically legal, no compiler error), in C++. Be careful with this one the question is about official ANSI C/C++ and assumes that the program does not do any operator overloading.

1. yes, syntax is legal
2. no, syntax is illegal

100.0% ▶ 2. no, syntax is illegal

Score: 10.0 / 10.0

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Question 3 (10 points)

Consider the following program fragment that contains the DoSomething function prototype and array declarations:

    const int size = 3;
    void DoSomething(int a[], int length);
    
    int first[size] = {1, 2, 3},
    second[size] = {8, 9, 10},

third[size] = {-4, -2, -1};

Indicate whether the statement:

   DoSomething(first, size);

is allowed, (syntactically legal, no compiler error), in C++. Be careful with this one the question is about official ANSI C/C++ and assumes that the program does not do any operator overloading.

100.0%  1. yes, syntax is legal
          2. no, syntax is illegal

Score: 10.0 / 10.0

Question 4  (10 points)

Consider the following program fragment that contains the DoSomething function prototype and array declarations:

   const int size = 3;
   void DoSomething(int a[], int length);
   int first[size] = {1, 2, 3},
   second[size] = {8, 9, 10},
   third[size] = {-4, -2, -1};

Indicate whether the statement:

   DoSomething(first[3], size);

is allowed, (syntactically legal, no compiler error), in C++. Be careful with this one the question is about official ANSI C/C++ and assumes that the program does not do any operator overloading.

1. yes, syntax is legal

100.0%  2. no, syntax is illegal

Score: 10.0 / 10.0

Question 5  (10 points)

Consider the following program fragment that contains the DoSomething function prototype and array declarations:

   const int size = 3;
   void DoSomething(int a[], int length);
   int first[size] = {1, 2, 3},
   second[size] = {8, 9, 10},
   third[size] = {-4, -2, -1};
third[size] = {-4, -2, -1};

Indicate whether the statement:

\[ \text{third[size]} = \text{first[size]} + \text{second[size];} \]

is allowed, (syntactically legal, no compiler error), in C++. Be careful with this one the question is about official ANSI C/C++ and assumes that the program does not do any operator overloading.

1. yes, syntax is legal
2. no, syntax is illegal

Score: 10.0 / 10.0

Question 6 (10 points)

Consider the following program:

```cpp
int func(int x);
void main() {
    int a[10];
    for (int i = 0; i < 10; i++)
        a[i] = func(i);
}
int func(int x) {
    return (5*x - 1);
}
```

Determine what value is assigned to the a[3] array cell by the for loop.

1. 0
2. 14
3. 7
4. logically invalid array reference
5. None of the above

Score: 10.0 / 10.0
Question 7 (10 points)

Consider the following program:

```c
int func(int x);
void main() {
    int a[10];
    for (int i = 0; i < 10; i++)
        a[i] = func(i);
}
int func(int x) {
    return (5*x - 1);
}
```

Determine what value is assigned to the a[0] array cell by the for loop.

1. 0
2. 1
3. 5
4. logically invalid array reference
5. None of the above

Score: 10.0 / 10.0

Question 8 (10 points)

Consider the following program:

```c
void main() {
    int b[5] = {4,3,2};
}
```

Determine what value is assigned to the b[3] array cell location by the given initialization.
Question 9 (10 points)

Consider the following program:

```c
void main() {
    int b[5] = {4,3,2};
}
```

Determine what value is assigned to the b[5] array cell location by the given initialization.

1. 2
2. 3
3. 4
4. logically invalid array reference

100.0% 4. logically invalid array reference

5. None of the above

Score: 10.0 / 10.0

Question 10 (10 points)

Consider the following rather quiet program:

```c
void main() {
    const int Dim = ______;
    char aName[Dim] = "NineChars";
}
```

Score: 10.0 / 10.0
Which of the following value(s) could be used to fill the blank in the declaration of Dim without either causing a compile-time error or a logical error?

1. 5
2. 9
3. 10
4. 15
5. All of the above

100.0%  
6. 10 and 15 only
7. 9, 10 and 15 only
8. None of the above

Score: 10.0 / 10.0

Total Score: 100.0 / 100 = 100.0%

Submission of this quiz constitutes your Virginia Tech Honor Code Pledge:

"On my honor, I have neither given nor received unauthorized aid on this examination."