QuizID: 33373 NetID: penggu2 Score: 1 / 4 Answer Source: PrairieLearn

{{{questionNumber}}}. Which of the following is true about dynamic arrays in C++?

A. They have a `length` member variable associated with them.
B. [Correct Answer] They are stored contiguously in memory.
C. Arrays can only be made on the stack.
D. Values are always automatically initialized to a default value when you create an array regardless of its type.
E. [Your Answer] More than one of the other options are true.

{{{questionNumber}}}. Consider this simple code, and assume the `puppy` class has default and copy constructors defined:

```
puppy * plantANew(puppy orig) {
    puppy * seedling = new puppy(orig);
    return seedling;
}

int main() {
    puppy f1; puppy * f2;
    f2 = plantANew(f1);
    return 0;
}
```

How many times is the `puppy` copy constructor called in the example above?

A. [Correct Answer] [Your Answer] Twice.
B. Three times.
C. One time.
D. Never, but the code executes with no errors.
E. Never, because this code has a compiler error.

{{{questionNumber}}}. Consider the following code:

```
#include <iostream>
using namespace std;

void myfunc(int y, int *x) {
    y = y+1;
    cout << y << endl;
    y = y+1;
    *x = y;
}

int main() {

    int z = 6;
    int*x = &z;
    myfunc(z, x);
    myfunc(z+1, x);
    return 1;
}
```

What is the result of compiling and running this code?

A. Nothing is printed to the screen.
B. [Correct Answer] The numbers 7 and 10 are printed to the screen.
C. [Your Answer] The numbers 7 and 11 are printed to the screen.
D. This code has a compilation error.
E. The numbers 7 and 8 are printed to the screen.

{{{questionNumber}}}. Consider this simple function definition.

```
PNG & ugly(PNG x) {
    return x;
}
```

Which of the following statements is true?

A. [Correct Answer] This function is ugly for two of the other reasons.
B. This function is ugly because there is a type mismatch between the return value and the return type.
C. [Your Answer] This function is ugly because it returns a value parameter by reference.
D. This function is ugly because the parameter is not `PNG const x`.
E. This function is ugly because it could be slow.