

1. What does the following code print out?

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

int main() {
    int *a = new int[2];
    a[0] = 0;
    a[1] = 1;
    int *b = new int[2];
    b[0] = 4;
    b[1] = 5;
    *b = *a;
    cout << b[0] << " " << b[1];
    return 0;
}
```

- A. 4 5
- B. [Your Answer] 0 1
- C. 4 1
- D. [Correct Answer] 0 5
- E. The code does not compile.

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

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

4. Consider this simple function definition.

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

Which of the following statements is true?

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