

1. What does the code on lines {{@line1}}--{{@line2}} accomplish?

```
int main() {
    int *a = new int[3];
    a[0] = 0;
    a[1] = 1;
    a[2] = 2;
    int *b = new int[3]; // from here ... {{#line1}}
    for(int i = 0; i < 3; i++) {
        b[i] = a[i];
    } // ... to here {{#line2}}
    // code to delete dynamic memory
    return 0;
}
```

- A. It results in a segmentation fault.
- B. It makes a copy of b called a .
- C. It results in a compiler error
- D. None of the other options are correct.
- E. **[Correct Answer]** **[Your Answer]** It makes a copy of a called b.

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

3. Consider the following code:

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

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

int main() {
    myfunc(5); // first call
    int x = 6;
    myfunc(x); //second call
    myfunc(x+1); // third call
    return 1;
}
```

What is the result of compiling and running this code?

- A. The numbers 6, 8, and 11 are printed to the screen.
- B. This code has a compilation error.
- C. **[Correct Answer]** **[Your Answer]** The numbers 6, 7, and 8 are printed to the screen.
- D. Nothing is printed to the screen.
- E. The numbers 6, 7, and 9 are printed to the screen.

4. Examine the following program and determine the output.

```
#include <iostream>
using namespace std;
int foo (int &a, int &b)
{
    b = b + a;
    a++;
    return a;
}

int main()
{
    int x=5, y=2;
    int z = foo(x,y);
    cout << z << "\t" << y << "\t" << x;

    return 0;
}
```

Which of the following options below would be printed out by the program?

- A. 5 2 5
- B. None of the other answers are correct.
- C. 6 2 6
- D. 6 7 5
- E. **[Correct Answer]** **[Your Answer]** 6 7 6