Quiz Number 3
(Closed book/Closed Notes: 10 minutes)
Friday, January 02, 2004

Question: Consider the following pieces of code. For each of them, indicate if they will run correctly. If not, what kind of error would they generate (compile time, runtime, or logical). State the reason the programs would not run correctly, if applicable. If the programs would run correctly, what would be the output?

1. #include <iostream>
   using namespace std;
   class Test
   {
   private:
      int num1;
      int num2;
   public:
      Test(int x, int y);
      static void print();
   }
   Test::Test(int x, int y)
   {
      num1=x;
      num2=y;
   }
   void Test::print()
   {
      cout << num1 << num2 << endl;
   }
   int main()
   {
      Test t(10,9);
      t.print();
      return 0;
   }

2. #include <iostream>
   using namespace std;
   class Room
   {
   const int max_no_of_rooms;
   static int no_of_rooms;
   public:
      Room();
      static void print();
   }
   Room::Room()
   {
      no_of_rooms = 1;
   }
   void Room::print()
   {
      cout << no_of_rooms << endl;
   }
   int main()
   {
      Room r;
      r.print();
      return 0;
   }
```cpp
#include <iostream>
using namespace std;
const int MAX_NO=100;
class Movie
{
private:
    char *name;
    char *actor;
public:
    Movie();
    Movie(char*, char*);
    Movie(const Movie& m);
    ~Movie();
};
Movie::~Movie()
{
    delete [] name;
    delete [] actor;
}
Movie::Movie()
{
    name = new char[MAX_NO];
    actor = new char[MAX_NO];
    cout << "Default c’tor" << endl;
}
Movie::Movie(char* n, char* a)
{
    name = new char[MAX_NO];
    actor = new char[MAX_NO];
    strcpy(name, n);
    strcpy(actor, a);
    cout << "Just a c’tor" << endl;
}
Movie::Movie(const Movie& m)
{
    name = new char[MAX_NO];
    actor = new char[MAX_NO];
    strcpy(this->name, m.name);
    strcpy(this->actor, m.actor);
    cout << "Copy c’tor" << endl;
}
int main()
{
    Movie Lord_of_The_Rings;
    Movie Matrix("Matrix", "Reeves");
    Movie firstCopy(Matrix);
    Movie secondCopy = Matrix;
    Movie thirdCopy;
    thirdCopy = Matrix;
    return 0;
}
```