Quiz4 **BESE15A** **20 May 2010**

Question1: Write a definition in C++ for a function `concat` that takes two c-strings s1 and s2 and returns a char pointer to heap memory containing a copy of the concatenation of s1 and s2.

Question 2: Define the following functions for the Employee class. Assume that the required functions in the Person class have already been defined

- **Constructor**
- **Destructor**
- **Copy constructor**
- **Assignment operator (which allows cascading and checks if an object is being assigned to itself)**

```
class person
{
     private:
          char* name; //points to dynamic arrray

     public:
          person() : name(0) {}
          person(char* a_name); //constructor
          person(const person& ); //copy constructor
          ~person();                //destructor
          person& operator=(const person&);
};
class employee : public person
{
     private:
          int id;
          char* dob; //points to dynamic array which will hold
the date of birth in the format 01-05-2010
     public:
          employee():id(0),dob(0){}
          employee(char* a_name,int id, char* dob);
          employee(const employee& );
          ~employee();
          employee& operator=(const employee&);
};
```

Write code in main that creates an array of 4 Person pointers. The first two elements of the array point to Person objects while the last 2 point to Employee objects. Then call a function `display()` on these pointers to display the corresponding objects. How will you write a function display( ) in the above classes so that the following is possible?

```
p[i]-> display(); //displays only name if p[i] points to a
person object but displays name,id and dob if p[i] points to an
employee object
```