LAB QUIZ 1

Question 1: Which of the following statements is/are valid? If there are any invalid statements, explain the error.

```
void main()
{
    int a;
    const int b;
    const int* const p1 = &a;
    int* p2 = &b;
    const int* p3 = &a;
    p1++;
    (*p1)++;
    p3++;
    (*p3)++;
    a++;
}
```

Question 2: Consider the following structure

```
        struct point
        {
            int x;
            int y;
        };
```

a) Write a function **void init(point* p)** which initializes x and y of the structure pointed to by p to 1.
b) Write a function **point add(point* p1, point* p2)** which returns the result of the sum of the structures pointed to by p1 and p2.
c) How will you call these functions in **main()?**

Question 3: In the following code, explain where a memory leak occurs and how it can be resolved. What is the function doing?

```
string *mystery(string* parts,int size){
 string *placeholder;
 string *total = new string();
 for (int i = 0; i < size; i++)
 {
    placeholder = new string(parts[i]);
      (*total) += (*placeholder);
      (*total) += " ";
 }

 return total;
}
```