“Introduction to C++ Programming” Online Course

Pretest/Posttest for Class 6

1. The compiler issues an error on this one. Why? How can it be fixed?
   ```cpp
   #include <iostream>
   using namespace std;
   int main () {
       double x = 99;
       cout << Cube (x);
       return 0;
   }
   double Cube (double x) {
       return x * x * x;
   }
   ```

2. The linker issues an error on this one. Why? How can it be fixed?
   ```cpp
   #include <iostream>
   using namespace std;
   Cubic (double x);
   int main () {
       double x = 99;
       cout << Cubic (x);
       return 0;
   }
   double Cubic (double x) {
       return x * x * x;
   }
   ```

3. The linker issues an error on this one. Why? How can it be fixed?
   ```cpp
   #include <iostream>
   using namespace std;
   double Cubic (double x);
   int main () {
       double x = 99;
       cout << Cubic (x);
       return 0;
   }
   double cubic (double x) {
       return x * x * x;
   }
   ```
4. This one does not work right. Why? How can it be fixed?
#include <iostream>
using namespace std;
int Cubic (double x);
int main () {
    double x = 99;
    double xcubed;
    Cubic (x);
    cout << xcubed;
    return 0;
}
int Cubic (double x) {
    return x * x * x;
}

4. This one creates a compiler error. Why? How can it be fixed?
#include <iostream>
using namespace std;
double Cubic (double x);
int main () {
    double x = 99;
    cout << Cubic (x);
    return 0;
}
double Cubic (double x) {
    double sum = x * x * x;
}

5. This one does not produce the correct output. Why? How can it be fixed?
#include <iostream>
using namespace std;
double Cubic (double x);
int main () {
    double x = 99;
    double xcubed;
    xcubed = double Cubic (double x);
    cout << xcubed;
    return 0;
}
double Cubic (double x) {
    return x * x * x;
}
6. This one produces compiler errors. Why? How can it be fixed?

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

double XPower (double x, int power);

int main () {
    double x = 99;
    double y = XPower (x);
    cout << y;
    return 0;
}

double XPower (double x, int power) {
    double ansr = pow (x, power);
    return power;
}
```

7. This one creates a compiler error about local functions not supported. Why? How can it be fixed?

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

double Cubic (double x);

int main () {
    double x = 99;
    double xCubed = Cubic (x);
    double Cubic (double x) {
        return = x * x * x;
    }
    cout << xCubed;
    return 0;
}
```
8. What will the `cout` display for the variables `a`, `b` and `c`?

```cpp
#include <iostream>
using namespace std;
int Fun (int a, int b);
int main () {
    int a = 1;
    int b = 2;
    int c = 3;
    c = Fun (a, b);
    cout << c << " " << b << " " << a;
    return 0;
}
int Fun (int a, int b) {
    a = 42;
    b = 42;
    return 42;
}
```

9. What will the `cout` display for the variables `a`, `b` and `c`?

```cpp
#include <iostream>
using namespace std;
int Fun (int a, int b);
int main () {
    int a = 1;
    int b = 2;
    int c = 3;
    if (a == 1) {
        int d = 42;
        int c;
        c = Fun (d, a);
    }
    cout << c << " " << b << " " << a;
    return 0;
}
int Fun (int a, int b) {
    return a + b;
}
```