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COMP 116

# Object Oriented Programming

Lecture 1

# Outline

Introducing C++

- Introduction
- A sample C++ program
- Reference Variables
- Inline Functions
- Function Overloading
- Comparison between C and C++

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# Reference Variables

```
void swap(float&,float&);

int main()
{
    float a = 22.2,b = 44.4;
    cout << "a = " << a << ", b = " << b << "\n";
    swap(a,b);
    cout << "a = " << a << ", b = " << b << "\n";
}

void swap(float& x,float& y)
{
    // exchanges the values of x and y:
    float temp = x;
    x = y;
    y = temp;
}
```

# Reference Variables contd...

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```
void f(int,int&,const int&);
int main()
{
    int a = 22, b = 33, c = 44;
    cout << "a = " << a << ", b = " << b << ", c = " << c << "\n";
    f(a,b,c);
    cout << "a = " << a << ", b = " << b << ", c = " << c << "\n";
    f(2*a-3,b,c);
    cout << "a = " << a << ", b = " << b << ", c = " << c << "\n" ;
}
void f(int x, int& y, const int& z)
{
    x += z;
    y += z;
    cout << "x = " << x << ", y = " << y << ", z = " << z << "\n" ;
}
```

# Simple Rules for Function Overloading

- You can have more than one function with same function name but
  - No. of arguments must be changed
  - Types of arguments must be changed
  - Sequence of arguments must be changed

return type has no significance in function overloading