Function Overloading

Last updated 3/28/19

Function Overloading

- Cpp allows function names to be overloaded
  - The same function name may be used multiple times
  - The argument list must be different
    - different # of arguments
    - different types of argument
  - The return type and order of the arguments cannot be used to overload a function
  - The compiler looks at the arguments and chooses the correct version of the function to use

© tj

Function Overloading

- Examples
  - The default constructor and the generalized constructors are examples of overloading a function name

```
Circle(void){
   radius = 1.0;
}
```

```
Circle(double r){
   radius = r;
}
```

```
Circle(int r){
   radius = (double)r
}
```

```
void setWidth(int w);
void setWidth(double w);

void box_calculate_vol(double edge);
void box_calculate_vol(double base_lw, double height);
void box_calculate_vol(double w, double l, double h);

int setID(int id);
int setID(string id);
int setID(char * id);

double print_dimensions(Circle c);
int print_dimensions(Circle * cptr);
bool print_dimensions(Circle & cref);
```


© tj