Good things in c++

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Stream I/O operation

- #include<iostream.h>
- void main(){
  - int k ;
  - cout << "input a number " ;
  - cin >> x ;
  - cout << "The number just inserted is" << x;
- }

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Small things

- // I am a comment
- A variable can be defined almost everywhere
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Reference variable

```
void swap( int &x , int &y ){
   int tmp = x;   x=y ;  x=tmp;
}
main(){
   int x=8, int y=14 ;
   swap(x,y);
   printf("%d %d\n", x,y) ;
}
```
Output: 14 8

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Default arguments

```
int kk( int i=10 , int j=100, int k =1000  ){
return i+j+k ;
}

main(){
   printf("%d %d %d %d \n",  kk(2,4,6), kk(2,4), kk(2), kk());
}
```

OUTPUT: 12 1006 1102 1110

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Templates

- Template <class X> void swapvals(X *a, X *b){
    X tmp ; tmp = *b ; *b=*a ;
- }

```
main(){
   int x=8, int y=14 ;
   swapval(&x,&y);
   printf("%d %d\n", x,y) ;
}
```

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Templates

Recall ``standard'' swap function

```
void  swapval( int  *a, int *b){
   int  tmp = *b ; *b=*a ; *a= tmp ;
}

main(){
   int x=8; int y=14 ;
   swapval(&x,&y);
   printf("%d %d\n " , x,y) ;
}
```

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Templates

Better way – define a new kind of ``variable'' X

```
void  template <class X>  swapval( X *a, X *b){
   X tmp = *b ; *b=*a ; *a= tmp ;
}

main(){
   int x=8; int y=14 ;
   swapval(&x,&y);
   printf("%d %d\n " , x,y) ;
}
```

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