

# Basic Materials of C++ Basic

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# 1 C++

```
1 #include<iostream>
2 using namespace std;
3
4 int main()
5 {
6     cout << "Hello world\n";
7     return 0;
8 }
```

Hello world

1 (Header) Compiler iostream header 6 cout iostream  
header io input/output

## 2 Variable

```
1 #include <iostream>
2 using namespace std;
3 int main() {
4     int x;
5     x = 32;
6     cout << "This is demonstration of variable declaration of C++.\n";
7     cout << "x:" << x << endl;
8 }
```

This is demonstration of variable declaration of C++.

x : 32

## 3 if-else

### 3.1

```
1 #include <iostream>
2 using namespace std;
3 int main() {
4     int x;
5     x=31;
6     if (x%2==0) {
7         cout << " x\n";
8     }
9     if (x%2!=0) {
10        cout << " x\n";
11    }
12 }
```

x

## 3.2

## 3.3

```
#include <stdio.h>
int main() {
    int x=4;
    if (x%2==0) {
        printf("even\n");
    } else {
        printf("odd\n");
    }
}
```

## 4 for

## 5 nested for

## 6 while

## 7 Instruction to C++

## 8 Variable

```
1  #include <iostream>
2  using namespace std;
3  int main() {
4      int x;
5      x = 32;
6      cout << "This is demonstration of variable declaration of C++"
7      ;
8  }
```

## 9 if-else

### 9.1

```
1  #include <iostream>
2  using namespace std;
3  int main() {
4      int x;
5      x=32;
6      if (x%2==0) {
7          cout << " x\n";
8      }
9      if (x%2!=0) {
10         cout << " x\n";
11     }
12 }
```

## 9.2

## 9.3

```
#include <stdio.h>
#include <iostream>
int x=4;
if (x%2==0) {
    cout << " x\n";
} else {
    cout << " x\n";
}
}
```

## 10 for

## 11 nested for

## 12 while

## 13 function

### 13.1 function declaration

### 13.2 function define

### 13.3 compute n!

```
#include <stdio.h>
int n(int x) {
    if (x==1) {
        return 1;
    } else {
        return x*n(x-1);
    }
}
int main() {
    int hi = 5;
    printf("%d\n",n(5));
}
```

## 14 function

### 14.1 function declaration

### 14.2 function define

### 14.3 compute n!

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

```

int n(int x) {
    if (x==1) {
        return 1;
    } else {
        return x*n(x-1);
    }
}

int main() {
    int hi = 9;
    cout << n(8) << endl;
}

```

## 15 python

```

1 def foo(x):
2     if x>0:
3         return x+1
4
5     else:
6         return x-1
7
8 return foo(5)

```

### 15.1 Python

```

1
2
3 print "Hello"

```

