C++ cin, endl, \n & Comments

Instructor: Chi Tse (Ricky)
cin >> (input operator)

• cin is used to store the data obtained from the user in a variable
• cin works in conjunction with cout
• Examples:
  
  string name;
  cout << “Enter your first name: “;
  cin >> name;

  int num;
  cout << “Please enter a number: “;
  cin >> num;
Comments

• Comments in C++ source code usually serve the following purposes:

  1. Explain to a reader (another programmer) the purpose of the program.
  2. Note to other developers about what the particular block of code is doing.
  3. A to do list on tasks you need to complete.
1. An in line comment marks the rest of the text on the line as a comment
   // This is an inline comment.
   // Name: Chi Tse
   // Goal: Create a program to use variables
   // Created on Feb 7, 2016

2. Multi-line comment, marks a block of text as comment
   /*
   This is a block comment. All lines in between are comments.
   Name: Chi Tse
   Goal: Create a program to use variables
   Created on Feb 7, 2016
   */
// Even number, give user a second chance
// Professor Ryba’s enterEven1.cpp
#include <iostream>
using namespace std;

int main(){
    int number;
    cout << "Give me an even number: ";
    cin >> number;
    if (number % 2 != 0) {
        cout << "\nTry again: ";
        cin >> number;
    }
    cout << "Thank you " << endl;
    return 0;
}
In C++, they both mean new line.

- `endl` --- it is used outside of " ",
- `
` --- it is used inside of " ",
- \ --- it has special meaning

If you want to print \, you cannot use `cout << "\"`; instead, you will use `cout << "\\"`;
Q1: What is the output?

```cpp
int main() {
    cout << "hi" << endl << endl << "hello" << endl;
    return 0;
}
```

A. hi
   hello

B. hi
   hello
int main() {
    cout << "hi" << endl;
    return 0;
}

int main() {
    cout << "hi\n";
    return 0;
}

A. Yes  B. No
int main() {
    cout << "today\ntomorrow" << endl;
    return 0;
}

A. today\ntomorrow  B. today tomorrow
Q4: What is the output?

```c++
int main() {
    cout << "\" << endl;
    return 0;
}
```

A. \ 
B. \ \
int main() {
    cout << "\n" << endl;
    return 0;
}

A. B. \n
(Choice A means zero or more new lines)
Q6: What is the output?

```cpp
int main() {
    cout << "endl" << endl;
    return 0;
}

A. B. endl
```
int main() {
    cout << "\n" << endl;
    return 0;
}

A. \n
B. \n
Q8: What is the output?

```c++
int main() {
    cout << "\\\\" << endl;
    return 0;
}
```

A. \| \| \| \| B. \| \| \| \|
int main() {
    cout << \n << endl;
    return 0;
}

A. \n
B. Program could not be compiled, thus no output
Answers to Output Questions

- Q1 B
- Q2 A
- Q3 B
- Q4 A
- Q5 A
- Q6 B
- Q7 B
- Q8 A
- Q9 B