C++ cin, endl, \n & Comments

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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.

Styles of Comments

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

*/
```

Code Indentation

```
// 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;
}
```

Understand endl and \n

- In C++, they both mean new line.
- endl --- it is used outside of “ ”
- \n --- 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?

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

A.

```
hi
hello
```

B.

```
hi

hello
```

Q2: Are the outputs the same?

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

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

A. Yes

B. No

Q3: What is the output?

```
int main() {
        cout << "today\ntomorrow" << endl;
        return 0;
}
```

A. today\ntomorrow

B. today
tomorrow

Q4: What is the output?

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

A. \

B. \\

Q5: What is the output?

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

A.

B. \n

(Choice A means zero or more new lines)

Q6: What is the output?

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

A.

B. endl

Q7: What is the output?

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

A. \\n

B. \n

Q8: What is the output?

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

A. \\

B. \\\\

Q9: What is the output?

```
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