

Due no later than 9:00pm on Tuesday 9/7.

As you read the following OLI pages and complete the interactive activities, capture the screenshots of the completed activities and replace the respective screenshots in the document.

- Page 3 Output statements
- Page 4 User interactions
- Page 5 Syntax rules vs. coding conventions





When you are ready to submit the assignment, save the document in PDF format and submit the PDF file on Cougar Courses as the proof for your work.

## Page 3 Output statements

### Hotspot essential set up for a C++ program

The above program illustrates the use of some special characters in C++.

Some symbols are used in pairs. Match the opening symbols with their respective closing ones.

	... "
	... >
	... )
	... }

✓ Correct, C++ uses < > to enclose a library file name.

Which symbol is used to mark the **end** of some lines in the above program?

- ☐ #
- ☒ ;

✓ Correct; semicolon is a very important symbol in C++. You will see a lot of them in a program.

## LBD escape sequence

Which of the following output statements would separate the days of the weeks by a tab?

```
Mon    Tue    Wed    Thu    Fri
```

- ☐ `cout << "Mon/tTue/tWed/tThu/tFri";`
- ☐ `cout << "Mon\nTue\nWed\nThu\nFri";`
- ☒ `cout << "Mon\tTue\tWed\tThu\tFri";`

✓ Correct. An escape sequence is needed to represent the tab character in a string.

What code should be used to display the following?

```
The server said, "May I take your order?"
```

- ☐ `cout << "The server said, \"May I take your order?\"";`
- ☐ `cout << The waitress said \"May I take your order?\";`
- ☐ `cout << "The waitress said, "May I take your order?"";`
- ☒ `cout << "The server said, \"May I take your order?\"";`

✓ Correct. In addition to using double quotes around the value of a string, an escape sequence is needed if you want to include any double quotes in the string value.

What code should be used to display the following ?

```
Shopping List
Apples
Cereal
Milk
```

- ☐ `cout << "Shopping List n Apples n Cereal n Milk";`
- ☒ `cout << "Shopping List\nApples\nCereal\nMilk";`
- ☐ `cout << "Shopping List`  
Apples  
Cereal  
Milk";

✓ Correct. An escape sequence is needed to represent the newline character.

---

The backslash is commonly used as part of an escape sequence. When we want to actually display a backslash as part of our output, we have to use the escape sequence `\\`.

Which of the following output statements would generate this text emoticon?



```
\\(^_^)/
```

- 
- ☒ `cout << "\\(^_^)/";`
  - ☐ `cout << "\(^_^)\\";`
  - ☐ `cout << "\\(^_ ^)/";`

✔ Correct. An escape sequence is needed to represent the backslash (\\) character.

## Page 4 User interactions

### LBD the binary system

What decimal number is equivalent to the binary number 1010?

- ☐ One thousand and ten
- ☐ eight
- ☒ ten
- ☐ two

✓ Correct; there is a 1 at the 8s bit and a 1 at the 2s bit. Therefore, 1010 is  $8 + 2$ .

Continue moving to the left, what is the next bit after the 8s bit?

- ☒ 16s
- ☐ 10s

✓ Correct, the next bit represent  $8 * 2$ .

Match the binary numbers with their equivalent decimal numbers.

10	2
100	4
1000	8
10000	16

✓ Correct, the binary number 10000 has 1 at the 16s bit and nothing else.

Each byte has 8 bits. What decimal number would be equivalent to the binary number 10000000, which has 1 followed by 7 zeros? Why?

128 because going by the binary number system from right to left starting from one and doubling it for each space to the left it'll go 1, 2, 4, 8, 16, 32, 64 and the 8th binary spot equaling to the decimal number of 128

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The binary number 10000000 would be equivalent to  $2^7$ , which is 128.

## LBD Variable declarations

An item's size could be L for large, M for medium, and S for small.

```
char size;
```

Identify the data type and variable in the above variable declaration statement.

char

data type

size

variable

✓ Correct, size is the variable in this statement.

Which of the following data types would be most appropriate for a variable to store the number of trips driven by the driver?

- ☐ string
- ☐ double
- ☒ int

✓ Correct

Choose the best data type for a variable keeping the average rating of the driver.

double average\_rating;

✓ Correct. there is likely to be a decimal value for average rating.

Choose the best data type for a variable keeping the license plate for the car.

string license\_plate;

✓ Correct. a license plate typically has multiple characters.



In the following space, include one variable declaration statement to declare a variable you think would be helpful to have for a share ride app.

```
double payment_value;
```

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## Hotspot user interaction pattern

Match the C++ objects with the respective operators they work with.

 cout	<<
 cin	>>

✓ Correct. cin >> extracts data from the standard input device.

Put the following statements into the proper order to support proper user interaction.

int cookies;

cout << "How many cookies would you like to have? ";

cin >> cookies;

cout << "You entered " << cookies;

Check My Answer

✓ Correct!

## LBD getline and >>

```
string str;  
cin >> str;
```

What would be stored into `str` if a user types `Spring Break` and presses Enter?

"Spring" ▼

✓ Correct. The >> operator stops at the space.

```
string str;  
getline(cin, str);
```

What would be stored into `str` if a user types `Spring Break` and presses Enter?

"Spring Break" ▼

✓ Correct. getline with two arguments extracts the whole line.

```
string full_name;  
cout << "Hello, what is your name?\n";
```

In the following space, call the `getline` function to collect a user's name.

```
getline(cin, full_name);
```

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```
getline(cin, full_name);
```

## Hotspot display decimal places

The stock market provides some indication of the economy.

DOW ▼ 23,400.33-319.04 (1.35%)   NASDAQ ▲ 8,173.548+19.97 (0.24%)   S&P 500 ▲ 2,760.53+10.55 (0.38%)

A snapshot of one moment in history

```
cout << fixed << showpoint << setprecision(_n_);
```

What number should be used to replace `_n_` in the above statement if we want to show only the integer portion of the DOW value?

```
cout << fixed << showpoint << setprecision(2) << nasdaq;
```

What would the above statement display for NASDAQ?

✓ Correct.



## Page 5 syntax rules vs. coding conventions

### MR Syntax errors

What questions and/or tips for others do you have regarding how to fix the syntax errors in the above program?

When writing code, it is important to make sure that even the smallest of details are in their appropriate

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Thanks for sharing.

Have you encountered other syntax errors? If so, please share one.

I have not yet encountered any other syntax errors

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## LBD variable names

number of trips	No_Trips	#_trips	t
Invalid ▼	Valid ▼	Invalid ▼	Valid ▼

✓ Correct, the spaces in the name are invalid.

✓ Correct. Uppercase is allowed to be part of a variable name even though most developers don't start their variable names with uppercase letters.

✓ Correct, the use of # in the name makes it invalid.

✓ Correct, even though t is not a descriptive name, it is a valid variable name.

Box B indicates the average rating for the driver. For each of the names in the following table, indicate whether it is a **valid** variable name to store 4.9.

rating/trip	rating_per_trip	average_*	averageRating
Invalid ▼	Valid ▼	Invalid ▼	Valid ▼

✓ Correct, the / has made the name invalid

✓ Correct, this follows all C++ rules about variable names.

✓ Correct, the \* has made the name invalid.

✓ Correct, this follows all C++ rules about variable names. It's actually a common coding convention for developers to use uppercase to separate two words in a variable name.

Box C indicates how long the driver has been working for Uber. For each of the names in the following table, indicate whether it is a **valid** variable name to store 2.

2_years	two_years	year_2	_years
Invalid ▼	Valid ▼	Valid ▼	Valid ▼

✓ Correct, starting with a digit makes this invalid.

✓ Correct, this follows all syntax rules for variable names.

✓ Correct, it is okay with include digit in a variable.

✓ Correct, it is okay to start a variable name with underscore.