

Quest 3 (Key Quest)

150 EXP

CPSC121 SI

Craig: Welcome back programmer!

Craig: Last time we went over the cout object. This time we will be looking at the cin object.

Craig: However, before we get to the cin object, we must go over identifiers and variables.

Craig: Identifiers are the names that you give to variables. There are a few rules you must/should follow when naming your variables.

Craig: The name can only consist of alphabetic characters, numeric characters, or underscores “_”. One important thing to note though is that the name cannot begin with a numeric character and cannot end with an underscore!

Craig: If your name contains multiple words in it, then capitalize the first letter of each word (except the first word). You can do that or use underscores as a space.

Craig: Rex, please give our friend here some examples.

Rex: I have compiled a list of identifiers for you:

```
sum
x
person
2ndperson
person3
person 4
_
_car
averageOfTemperatures
HighestGradeInTheClass
number_or_applicants
person.age
Output
```

Craig: Well, there are certainly many great examples of identifiers, but there are still a few that are not allowed. (To you) Can you please mark which identifiers are not allowed?

(Please verify your answers with your SI leader now or after you are done with this quest)

Craig: Now that we know how to name our variables, let's get into the different types of variables.

Craig: Here is a list of the different variable types that you should be familiar with:

- int: non-decimal numbers
- double: decimal numbers
- char: single characters
- string: multiple characters
- bool: true(1) or false(0)

Craig: Now, you may end up seeing other datatypes like short, unsigned short, unsigned int, long, unsigned long, float, or long double.

Craig: These are basically just sizing differences/value ranges. The size of the datatypes go as follows:

- short < int < long
- float < double < long double

Craig: unsigned just means that the data type contains no negative values, thus resulting in double the range for positive numbers.

Craig: When declaring variables you can do it in separate statements, or the same statement (as long as the variables in the same statement are the same type).

Craig: Here are some examples of how to declare variables:

```
int x;  
int num1, num2;  
double averageOfAges;  
double sum = 0;  
string name;  
bool choice = false;
```

Craig: Now that we know how to name and declare variables, let's get to cin.

Craig: The cin object is a way to get a user's input. You can use "cin >> x;" to store an input into a variable, but the input received needs to be the same datatype as the variable you are trying to store it in.

Craig: It's time for **Quest 3!** My boss has requested program that will ask a user for their first name, age, and favorite color. The program will then display the person's age, then first name, then favorite color.

Craig: Please note that the order the program takes input and display information matters. Also, please try and make the program looks nice. I know that is not a requirement, but a clean looking program is always a plus.

Craig: Good Luck programmer. Your SI leader will determine your score for this quest.