### Programming Fundamentals I Cheat Sheet by ghostrogue via cheatography.com/23817/cs/5332/

F

C++ programs have always

The basic commands that a computer performs are input (get data), output (display result), storage, and perfor- mance of arithmetic and logical operat- ions.TMain memory is directly connected to the CPU.TWhen the computer is turned off, everything in secondary memory is lost.FThe devices that feed data and programs into computers are called output devices.FInformation stored in main memory device for permanent storage.FThe device that stores information permanently (unless the device becomes unusable or you change the information by rewriting it) is called primary storage.FThe command that does the linking on Visual C++ 2012 Express and Visual Studio 2012 is Make or Remake.FWhen you compile your program, the compiler identifies the logic errors and suggests how to correct themF	CH 1	
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compiler identifies the logic errors and	Visual C++ 2012 Express and Visual	F
		F
To develop a program to solve a T problem, you start by analyzing the problem.	problem, you start by analyzing the	Т

been portable from one compiler to another.	
Several categories of computers exist, such as	mainframe, midsize, and micro
The basic commands that a computer performs are, and performance of arithmetic and logical operations.	input, output, storage
Main memory is called	random access memoryq
The is the brain of the computer and the single most expensive piece of hardware in your personal computer.	CPU
Main memory is an ordered sequence of items, called	memory cells
The devices that feed data and programs into computers are called devices.	input
The devices that the computer uses to display results are called devices.	output
programs perform a specific task.	Application
The monitors the overall activity of the computer and provides services.	operating system
represent information with a sequence of 0s and 1s.	Digital Signals
A sequence of eight bits is called a	byte
The digit 0 or 1 is called a binary digit, or	bit

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CL.	6 10	(con

CH 1 (cont)	
The term GB refers to	gigabyte
consists of 65,536 characters.	Unicode
A program called a(n) translates instructions written in high-level languages into machine code.	compiler
A program called a(n) combines the object program with the programs from libraries.	linker
A program that loads an executable program into main memory is called a(n)	loader
A step-by-step problem-s- olving process in which a solution is arrived at in a finite amount of time is called a(n)	algorithim
Dividing a problem into smaller subproblems is called design.	structured
A(n) consists of data and the operations on those data.	object
The programming language C++ evolved from	С
CH 2.	

 The memory allocated for a float
 four

 value is \_\_\_\_\_ bytes.
 bits

 In C++, reserved words are the same as predefined identifiers.
 F

 The maximum number of significant digits in values of the double type is
 T

 15.
 5.

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CH 2. (cont)	
The maximum number of signif- icant digits in float values is up to 6 or 7.	Т
An operator that has only one operand is called a unique operator.	F
If a C++ arithmetic expression has no parentheses, operators are evaluated from left to right.	Т
A mixed arithmetic expression contains all operands of the same type.	F
Suppose a = 5. After the execution of the statement ++a; the value of a is 6.	Т
The escape sequence \r moves the insertion point to the beginning of the next line.	F
A comma is also called a statement terminator.	F
Suppose that sum is an int variable. The statement sum += 7; is equivalent to the statement sum = sum + 7;	Т
The rules of a programming language tell you which statements are legal, or accepted by the programming language.	Syntax
Which of the following is a reserved word in C++?	char

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CH 2. (cont)	
Which of the following is a legal identifier?	program_1
is a valid int value.	46259
is a valid char value.	'A'
An example of a floating point data type is	double
(2X) The value of the expression 33/10, assuming both values are integral data types, is // The value of the expression 17 % 7 is	3
The expression static_ca- st(9.9) evaluates to	9
The expression static_ca- st(6.9) + static_cast(7.9) evaluates to	13
The length of the string "com- puter science" is Question 22 options:	16
In a C++ program, one and two are double variables and input values are 10.5 and 30.6. After the statement cin >> one >> two; executes,	one = 10.5, two = 30.6
Suppose that count is an int variable and count = 1. After the statement count++; executes, the value of count is 	2

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#### CH 2. (cont)

CH Z. (cont)	
Choose the output of the following C++ statement: cout << "Sunny " << '\n' << "Day " << endl;	Sunny Day
Which of the following is the newline character?	\n
are executable statements that inform the user what to do.	prompt lines
The declaration int a, b, c; is equivalent to which of the following?	int a,b,c;
Suppose that alpha and beta are int variables and alpha = 5 and beta = 10. After the statement alpha *= beta; executes,	alpha = 50
Suppose that sum and num are int variables and sum = 5 and num = 10. After the statement sum += num executes,	sum = 15
Insertion Point 1	alpha = beta; beta = beta + 1;

#### CH 3

It is a good idea to redefine cin and	F
cout in your programs	
In the statement cin >> x; , x can be a	F
variable or an expression	

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CH 3 (cont)		CH 3 (o
The following statements will result in input failure if the input values are not on a separate line. (Assume that x and y are int variables.) cin >> x; cin >> y;	F	In an or occurre cursor on an c
The number of input data extracted by cin and >> depends on the number of variables appearing in the cin	Т	You ca read a
statement.		Suppos y is a d
The extraction operator >> skips only all leading blanks when searching for the next data in the input stream.	F	is: 10 2 the follo >> x >>
When reading data into a char variable, after skipping any leading whitespace characters, the extraction operator >> finds and stores only the next character; reading stops after a single character.	Т	Suppos variable valid in
Entering a char value into an int variable causes serious errors, called input failure.	Т	Suppos a doub variable
If input failure occurs in a C++ program, the program terminates immediately and displays an error message.	F	Choose followin x >> ch
		Suppos is a cha 276.

In an output statement, each occurrence of endl advances the cursor to the end of the current line on an output device.	F
You can use the function getline to read a string containing blanks	Т
Suppose that x is an int variable and y is a double variable and the input is: 10 20.7 Choose the values after the following statement executes: cin >> x >> y;.	x = 10, y = 20.7
Suppose that x and y are int variables. Which of the following is a valid input statement?	cin >> x >> y;
Suppose that x is an int variable, y is a double variable and ch is a char variable and the input is: 15A 73.2 Choose the values after the following statement executes: cin >> x >> ch >> y;	x = 15, ch = 'A', y = 73.2
Suppose that x is an int variable, ch is a char variable, and the input is: 276.	B ch = '2', x = 76

CH 3 (cont)	
Suppose that alpha is an int variable and ch is a char variable and the input is: 17A What are the values after the following statements execute? cin » alpha; cin » ch;	alpha = 17, ch = 'A'
Suppose that x is an int variable, y is a double variable, z is an int variable, and the input is: 15 76.3 14 Choose the values after the following statement executes: cin >> x >> y >> z;	x = 15, Y = 76 . 3 , z = 14
Suppose that ch1, ch2, and ch3 are variables of the type char and the input is: A B C Choose the value of ch3 after the following statement executes: cin >> ch1 >> ch2 >> ch3;	'C'
Suppose that x and y are int variables, z is a double variable, and the input is: 28 32.6 12	x = 28, Y = 32, z = 0.6
Suppose that x and y are int variables, ch is a char variable, and the input is: 4 2 A 12 Choose the values of x, y, and ch after the following statement executes: cin >> x >> ch >> y;	This statement results in input failure

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#### CH 3 (cont)

Suppose that ch1 and ch2 are char variables, alpha is an int variable, and the input is: A 18 What are the values after the following statement executes? cin.get(ch1); cin.get(ch2); cin >> alpha;	ch1 = 'A', ch2 = ," alpha = 18
Suppose that ch1, ch2, and ch3 are variables of the type char and the input is: A B C What is the value of ch3 after the following statements execute? cin.get(ch1); cin.get(ch2); cin.get(ch3);	'Β'
When you want to process only partial data, you can use the stream function to discard a portion of the inp	ignore
Suppose that alpha, beta, and gamma are int variables and the input is: 100 110 120 200 210 220 300 310 320 What is the value of gamma after the following statements execute? cin >> alpha; cin.ignore(100, '\n'); cin >> beta; cin.ignore(100, '\n'); cin >> gamma;	300

## CH 3 (cont)

CH 3 (cont)	
Suppose that ch1 and ch2 are char variables and the input is: WXYZ What is the value of ch2 after the following statements execute? cin.get(ch1); cin.putba- ck(ch1); cin >> ch2;	W
Suppose that ch1 and ch2 are char variables and the input is: WXYZ What is the value of ch2 after the following statements execute? cin >> ch1; ch2 = cin.peek(); cin >> ch2;	X
In C++, the dot is an operator called the operator.	member access
Suppose that $x = 25.67$ , y = 356.876, and z = 7623.9674. What is the output of the following statements? cout << fixed << showpoint; cout << setprecision(2); cout << x << ' ' << y << ' ' << z << endl;	25.67 356.88 7623.97
x = 55.68, y = 476.859, and z = 23.8216. statements? cout << fixed << showpoint; cout << setprecision(3); cout << x << ' ' << y << ' ' << setprecision(2) << z << endl;	55.680 476.860 23.82
Suppose that $x =$ 1565.683, $y =$ 85.78, and $z =$ 123.982. What is the output of the following statements? cout << fixed << showpoint; cout << setprecision(3) << $x <<$ ' '; cout << setprecis- ion(4) << $y <<$ ' ' << setprecision(2) << $z <<$ endl;	1565.683 85.7800 123.98

## CH 3 (cont)

is a parameterized stream manipulator.	setfill
Manipulators without parameters are part of the header file.	iostream
Consider the following program segment. ifstream inFile; //Line 1 int x, y; //Line 2 //Line 3 inFile >> x >> y; //Line 4 Which of the following statements at Line 3 can be used to open the file progdata.dat and input data from this file into x and y at Line 4?	inFile.op en("pro- gdata.d- at");
Suppose that outFile is an ofstream variable and output is to be stored in the file output- Data.out. Which of the following statements opens the file outputData.out and associates outFile to the output file?	outFil- e.open- ("outpu- tData.o- ut");

What is the output of the following statem- ents? cout << setfill('*'); cout << "123456789- 01234567890" << endl cout << setw(5) << "18" << setw(7) << "Happy" << setw(8) << "Sleepy" << endl	123456789012- 34567890 <i>18Happy</i> *Sleepy
What is the output of the following statem- ents? cout << "123456- 789012345678901234- 567890" << endl cout << setfill('#') << setw(10) << "Mickey" << setfill(' ') << setw(10) << "Donald" << setfil- l('*') << setw(10) << "- Goofy" << endl;	123456789012- 345678901234- 567890 ####Mickey Donald*Goofy



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