

**Instructions:** This is a closed book and closed note test. Please write your answer (A, B, C, D, or E) clearly in the Answer column. When you are done, complete the quiz in I-Learn. After you submit your test, you can retake the quiz a second time to correct errors made. Your highest grade between the two attempts will be recorded. You must turn in the paper exam afterwards. Please ensure your name is written on the top.

Problem	Question	Choices	Answer
1	How do you open a file stream to write to a file called "data.txt"?	a) ifstream f("data.txt"); b) ofstream f("data.txt"); c) fin f("data.txt"); d) fout f("data.txt"); e) fileOut("data.txt");	
2	What is the best loop to use to read each word in a file?	a) while loop b) do while loop c) for loop d) random loop e) You can't read individual words in a file	
3	Which of the following will read a single word into a variable called "x" from a file using a stream called "fileIn"?	a) fileIn.read(x); b) fileIn.write(x); c) fileIn << x; d) fileIn(x); e) fileIn >> x;	
4	Which function can be called to check if a file does not exist?	a) fail() b) close() c) error() d) clear() e) check()	
5	When reading a file using a stream called "fin", what boolean condition would you use to read one word at a time into a variable text:  <pre>while (&lt;???) {     // Do something with the variable text }</pre>	a) fin << text b) !fin >> text c) text != '\0' d) fin >> text e) text == '\0'	
6	Which of the following variable declarations will result in a compiler error?	a) int data[5]; b) int data[]; c) int data[] = {1, 2, 3, 4, 5}; d) int data[5] = {1, 2, 3, 4, 5}; e) int data[5] = {};	

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7	Which statement will set the second element of an integer array of size 10 to the value of 14?	a) <code>data[2] = 14;</code> b) <code>data + 2 = 14;</code> c) <code>data[1] = 14;</code> d) <code>data + 1 = 14;</code> e) <code>data[14] = 1;</code>	
8	What is the best loop to traverse an array of doubles?	a) while loop b) do while loop c) assert loop d) random loop e) for loop	
9	Which of the following is <u>not</u> a true statement about character arrays?	a) You can print out a character array using <code>cout</code> . b) You can set a character array using <code>cin</code> . c) Compiler will add a NULL character at the end of text. d) You can compare two char arrays using <code>==</code> e) A character array is passed to a function by reference.	
10	What is the maximum length of a word that can fit into <code>char word[256]</code> ?	a) 254 b) 255 c) 256 d) 257 e) 258	
11	What while loop would you most likely use to traverse <code>char data[100]</code> ?	a) <code>while (data)</code> b) <code>while (data[i] != '\0')</code> c) <code>while (data[i] == '\0')</code> d) <code>while (!data)</code> e) <code>while (data[0] == '\0')</code>	
12	Which of the following statements is <u>false</u> ?	a) Passing an array of characters does not require an array size parameter. b) Passing an array is done by reference. c) When passing an array, the address to the first element of the array is passed to the function. d) Passing an array of character arrays requires an array size parameter. e) Passing an array of integers does not require an array size parameter.	

Problem	Question	Choices	Answer
13	How do you declare an array of 20 words where each word is no more than 40 characters long (including the NULL character)?	a) char[20] data[40]; b) char[40] data[20]; c) char data[40][20]; d) char data[20][40]; e) char data[][20];	
14	What function declaration would be used to receive an array of 10 words where each word has up to 5 characters (including the NULL character) within it?	a) void process(char data[][5]) b) void process(char data[][]) c) void process(char data[10][5]) d) void process(char data[][10]) e) void process(char data[10][])	
15	What is wrong with this code?  <pre>int data[5] = {1, 1, 2, 3, 5}; for (int i=1; i&lt;=5; i++) {     cout &lt;&lt; data[i] &lt;&lt; " "; }</pre>	a) Wrong type of loop is used to traverse the array b) Incorrect initialization of the data array c) Array accessed out of bounds d) Will not compile e) The variable data[i] is not accessible inside the for loop	
16	If you have an array of 50 words where each word is no more than 20 characters long (including the NULL character), how would you access the 3 <sup>rd</sup> character of the 10 <sup>th</sup> word?	a) data[3][10] b) data[10][3] c) data[9][2] d) data[2][9] e) data[3][9]	
17	How would you obtain the address of a variable x?	a) *x b) &x c) x* d) ^x e) *(&x)	
18	What is the output of this code?  <pre>int x = 17; int y = 18; int *xPtr = &amp;x; int *yPtr = &amp;y; *xPtr = *yPtr - y; cout &lt;&lt; x;</pre>	a) 0 b) 17 c) 18 d) 1 e) -1	
19	If you have the following code:  <pre>int *ptr = 0; int value = 5;</pre> which of the following will create a segmentation fault?	a) *ptr = value; b) ptr = &value; c) ptr++; d) value--; e) value++;	

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20	What is the output of the following code:  <pre>int data[6] = {9, 7, 5, 3, 1, -1}; cout &lt;&lt; *(data + 2);</pre>	a) 9 b) 7 c) 5 d) 3 e) 1	
21	Which of the following statements is true about the relationship between arrays and pointers?	a) x[i] is the same as *x+i b) x[i] is the same as &x+i c) x[i] is the same as &(x+i) d) x[i] is the same as x+i e) x[i] is the same as *(x+i)	
22	When traversing a char array using a pointer, what boolean condition would you put in the loop?  <pre>char text[20] = "Unit Test 3"; char *pos = text; while (&lt;??&gt;) {     cout &lt;&lt; *pos;     pos++; }</pre>	a) !pos b) pos == '\0' c) pos > '\0' d) *pos != '\0' e) pos < '\0'	
23	What is the output of the following code:  <pre>int x = 10; int y = -10; int *ptr; if (x &gt; y) {     ptr = &amp;x; } else {     ptr = &amp;y; } cout &lt;&lt; *ptr;</pre>	a) 10 b) -10 c) 0 d) Random address value e) Compiler Error	
24	For the following code:  <pre>int x = 5;</pre> which of the following would <u>not</u> result in a compiler error?	a) int *x = &x; b) float *y = &x; c) int *z = &x; d) char *w = &x; e) bool *b = &x;	

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25	<p>For the following character array:</p> <pre>char school[10] = "BYU-I";</pre> <p>what is the memory address of the letter 'U'?</p>	<ul style="list-style-type: none"> <li>a) school</li> <li>b) *school+2</li> <li>c) *(school+2)</li> <li>d) school+2</li> <li>e) &amp;school + 2</li> </ul>	