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 Started on Sunday, 28 January 2024, 10:23 AM

 State Finished

 Completed on Sunday, 28 January 2024, 11:34 AM

 Time taken 1 hour 11 mins

 Marks 40:00/40:00

 Grade 10:00 out of 10:00 (100%)

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with that statement is executed and the program then skips to the end of the chain of statements and continues executing. If each If $1 \le n \le 9$, then print the lowercase English word corresponding to the number (e.g., one for 1, two for 2, etc.); otherwise, print Greater if and else are two of the most frequently used conditionals in C/C++, and they enable you to execute zero or one conditional statement checked if all prior conditions in the chain evaluated to false. Once a condition evaluates to true, the bracketed code associated 2. if -else: This executes the body of bracketed code starting with statement1 if condition, evaluates to true, or it executes the body of code starting with statement2 if condition evaluates to false. Note that only one of the bracketed code sections will 3. if -else if -else: In this structure, dependent statements are chained together and the condition for each statement is only condition in the chain evaluates to false, then the body of bracketed code in the else block at the end is executed. • If $1 \le n \le 9$, print the lowercase English word corresponding to the number (e.g., one for 1, two for 2, etc.).
• If n > 9, print Greater than 9. 1. if: This executes the body of bracketed code starting with statement1 if condition evaluates to true. among many such dependent conditional statements. We use them in the following ways: Given a positive integer **n**, do the following: five is the English word for the number 5. else if((n-1)'th condition) { else if(second condition) { if(first condition) { if (condition) { if (condition) {
 statement1; ever be executed. statement2; • $1 \le n \le 10^9$ A single integer, n. Mark 10.00 out of 10.00 Sample Output 0 Sample Input 0 Sample Input 1 **Output Format** else { else { Explanation 0 Input Format Constraints Question 1 five



```
oldsymbol{n}=44 is greater than 9, so we print Greater than 9.
                                                                                                                                                                                                                                                                                                                                                                                                                 int n = stoi(ltrim(rtrim(n_temp)));
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cout << "seven" << endl;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cout << "eight" << endl;</pre>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cout << "three" << endl;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cout << "two" << endl;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cout << "four" << endl;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cout << "five" << endl;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cout << "six" << endl;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cout << "nine" << endl;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  cout << "one" << endl;
                                             eight is the English word for the number 8.
                                                                                                                                                                                                                                                                                                                              string ltrim(const string &);
string rtrim(const string &);
                                                                                                                                                                                                                                                                                                                                                                                       string n_temp;
getline(cin, n_temp);
                                                                                                                                                                                                                                                                                   1 #include <br/> <br/>2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       else if (n == 6)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   else if (n == 3)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   else if (n == 4)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    else if (n == 5)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       lse if (n == 7)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          else if (n == 8)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          else if (n == 9)
                                                                                                                                                                                                                                                                                                              using namespace std;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  lse if (n == 2)
                                                                                                                                                                                                                                                              Answer: (penalty regime: 0 %)
                                                                                                                                                                                                                                                                                                                                                                                                                                  if (n == 1)
                                                                                                                                                                                                                                 44 Greater than 9
                                                                                                                                                                                                                                                                                                                                                                        int main()
Sample Output 1
                                                                                          Sample Output 2
                                                                                                                                                                                                                   8 eight
                                                                                                                                                                                                                                                                               Reset answer
                                                           Sample Input 2
                                                                                                       Greater than 9
                                                                                                                                                                                  Input Result
                                Explanation 1
                                                                                                                         Explanation 2
                                                                                                                                                                                                   5 five
                                                                                                                                                                  For example:
```



Correct
Marks for this submission: 10.00/10.00.



Mark 10.00 out of 10.00

 $\mathsf{Question}\, 2$

A for loop is a programming language statement which allows code to be repeatedly executed.

The syntax is

- expression_1 is used for initializing variables which are generally used for controlling the terminating flag for the loop.
 expression_2 is used to check for the terminating condition. If this evaluates to false, then the loop is terminated.
- expression_3 is generally used to update the flags/variables.

A sample loop is

```
for(int i = 0; i < 10; i++) {
```

In this challenge, you will use a for loop to increment a variable through a range.

Input Format

You will be given two positive integers, $m{a}$ and $m{b}$ ($m{a} \leq m{b}$), separated by a newline. **Output Format**

For each integer $m{n}$ in the inclusive interval $[m{a}, m{b}]$:

- If 1 ≤ n ≤ 9, then print the English representation of it in lowercase. That is "one" for 1, "two" for 2, and so on.
 Else if n > 9 and it is an even number, then print "even".
 Else if n > 9 and it is an odd number, then print "odd".

Note: $[a,b]=\{x\in\mathbb{Z}\mid a\leq x\leq b\}=\{a,\ a+1,\ldots,b\}$

Sample Input

Sample Output

For example:

Result	eight nine even odd
Input	111

Answer: (penalty regime: 0 %)

Reset answer

```
1 #include <iostream>
2 #include <cstdio>
                                     8
9
10
111
113
113
115
115
110
119
```

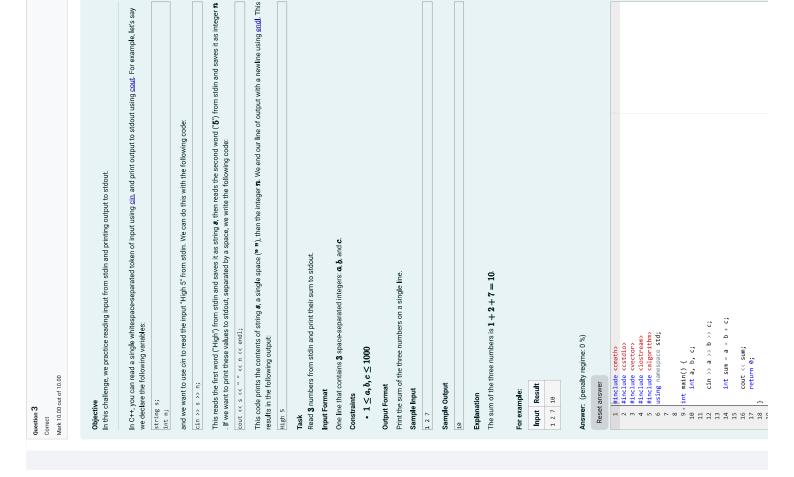
<pre><> end1;</pre>

	== 3)		cout << "three" << endl;		== 4)		cout << "four" << endl;		· == 5)		cout << "five" << endl;		(9 == 1		cout << "six" << endl;		(== 7)		cout << "seven" << endl;		== 8)		cout << "eight" << endl;		(6 == 1		cout << "nine" << endl;		(6 < 1		if (a % 2 == 0)
	else if (a == 3)		cont	^	else if (a == 4)		cont		else if (a == 5)		cont <	_	else if (a == 6)		cont <	^	else if (a == 7)		cont <	^	else if (a == 8)		cont	^	else if (a == 9)	.	cont	_	else if (a > 9)		if (a)
21	22	23 ⋅	24	25	26	27 *	28	29	30	31 *	32	33	34	35 ▼	36	37	38	39 ∗	40	41	42	43 ⋅	44	45	46	47 *	48	49	50	51 ∗	52

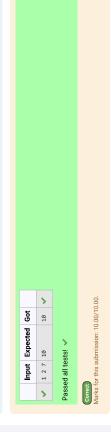
Input Expected Got R eight eight nine even even odd odd	Got	eight vine even
ž	Expected	eight nine even
8 11	nput	111

Passed all tests! 🗸

Correct Marks for this submission: 10.00/10.00.







Question 4

Mark 10.00 out of 10.00

One common task for computers is to sort data. For example, people might want to see all their files on a computer sorted by size. Since sorting is a simple problem with many different possible solutions, it is often used to introduce the study of algorithms.

These challenges will cover *Insertion Sort*, a simple and intuitive sorting algorithm. We will first start with a nearly sorted list.

Given a sorted list with an unsorted number e in the rightmost cell, can you write some simple code to insert e into the array so that it Insert element into sorted list remains sorted? Since this is a learning exercise, it won't be the most efficient way of performing the insertion. It will instead demonstrate the brute-force

successively from 3 to 0 until you reach a value that is lower than arr[4], at arr[1] in this case. Each time your test fails, copy the value at the lower index to the current index and print your array. When the next lower indexed value is smaller than arr[4], insert the stored Assume you are given the array arr = [1, 2, 4, 5, 3] indexed 0...4. Store the value of arr[4]. Now test lower index values value at the current index and print the entire array. method in detail.

n = 5

arr = [1, 2, 4, 5, 3]

Start at the rightmost index. Store the value of arr[4] = 3. Compare this to each element to the left until a smaller value is reached. Here are the results as described:

12455 12345

Function Description

Complete the insertionSort1 function in the editor below.

insertionSort1 has the following parameter(s):

- arr: an array of integers to sort n: an integer, the size of arr

None: Print the interim and final arrays, each on a new line. No return value is expected.

Input Format

The next line contains $m{n}$ space-separated integers $m{arr}[m{0}]...m{arr}[m{n}-m{1}]$ The first line contains the integer $m{n}_{\!\! s}$ the size of the array $m{arr}$

Output Format

 $\begin{array}{l} 1 \leq n \leq 1000 \\ -10000 \leq a rr[i] \leq 10000 \end{array}$

Print the array as a row of space-separated integers each time there is a shift or insertion.

Sample Input

24683

Sample Output

24688

In the 1st line 8 > 3, so 8 is shifted one cell to the right. In the $2^{\rm nd}$ line 6>3, so 6 is shifted one cell to the right In the 3rd line 4 > 3, so 4 is shifted one cell to the right. 3 is removed from the end of the array.

Explanation

23468

Next Challenge

In the 4^{th} line 2 < 3, so 3 is placed at position 1.

In the next challenge, we will complete the insertion sort.

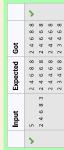


	00	00	00	00
	00	9	9	9
Result	9	9	4	4
es	4	4	4	m
œ	7	7	7	7
		m		
		∞		
Ħ		9		
Input		4		
=	r.	7		

Answer: (penalty regime: 0 %)

Reset answer

```
vector<string> arr_temp = split(rtrim(arr_temp_temp));
                                     * Complete the 'insertionSort1' function below.
                   string ltrim(const string &);
string rtrim(const string &);
vector<string> split(const string &);
1 |#include <bits/stdc++.h>
           using namespace std;
```



Passed all tests! ✓



Marks for this submission: 10.00/10.00.



