

University Number: _____

COMP2113 Programming technologies
ENGG1340 Computer Programming II
Quiz

2 Nov, 2020

Time Allowed: 90 minutes for answering Q1-11, another 30 minutes after the quiz for the explanation task (see Instructions for details)

Total: 15 marks

Instructions: For all the questions in the quiz, please finish them in the Quiz section on Moodle (Note: Q.10 – Q.11 are VPL questions and please make sure your files are in the correct format before submission). You are also required to explain your ideas and approaches to solve Q10 and Q11 with no more than 100 words for each question. You are given another 30 mins after the quiz to finish the explanation task and the deadline for submitting your word explanation towards Q10 and Q11 on Moodle is Nov 2 10:30 pm.

Q.1 (0.5) In Linux/Unix, the _____ command is used to list contents of directories?

- A. ls
- B. ld
- C. folder
- D. grep

Answer: _____

Q.2 (0.5) In Linux/Unix, how to rename a file "C.txt" to "D.txt"?

- A. rn D.txt C.txt
- B. mv D.txt C.txt
- C. mv C.txt D.txt
- D. rn C.txt D.txt

Answer: _____

Q.3 (0.5) Which of the following is/are valid command(s) or editor(s) that allow you to show the content of a file in Linux/Unix.

- (i) cat
- (ii) vi
- (iii) show
- (iv) get

- A. (i) only
- B. (i) and (ii)
- C. (i) and (iii)
- D. (iii) and (iv)

Answer: _____

Q.4 (0.5) In Linux/Unix, the _____ command(s) can be used to remove directories?

- A. `rm -r`
- B. `rmdir` and `del`
- C. `rmdir` and `rm -r`
- D. `rmdir`

Answer: _____

Q.5 (1) Finish this task using a combined command (a.k.a. piping) with four individual commands. Task: Find all lines containing the keyword "were" from file "opening_lines.txt" and sort the lines alphabetically. Pick the first two of the sorted lines and count how many characters are in the two lines.

Answer: _____

Q.6 (0.5) Which of the following is a valid way to include the header file `a.h` (note: `a.h` is a header file that is defined by user) in C++?

- A. `#include <a.h>`
- B. `#include "a.h"`
- C. `#include <a>`
- D. `#include 'a'`

Answer: _____

Q.7 (0.5) 'cin' is?

- A. a Class
- B. a Package
- C. an Object
- D. a Namespace

Answer: _____

Q.8 (0.5) What will j equal after the code below is executed?

```
int i = 10;
unsigned int j = i++;
```

- A. 10
- B. 11
- C. -11
- D. -10

Answer: _____

Q.9 (0.5) What is the output of the following code segment?

```
#include <iostream>
using namespace std;

int main()
{
    if (10 = 2 * 5)
    {
        cout << "10";
        cout << "2*5";
    }
    cout << "?" << endl;
    cout << "!" ;
    return 0;
}
```

- A. 102*5? !
- B. 102*5?
- C. 102*5?!
- D. Compilation error

Answer: _____

Q.10 (4) Write a program to accept an integer from the user. This integer can be positive or negative. The program then reverses the digits in the input integer while the sign of the integer is preserved.

Part of the program is given below:

```
#include <iostream>

using namespace std;

int reverse(int N) {
    // Several missing statements
}

int main() {
    int N;
    cout << "Please input an integer: ";
    cin >> N;
    cout << "Result: " << reverse(N) << endl;
    return 0;
}
```

Copy the above into your program and complete the missing statements in the `reverse` function.

Sample runs of the program are as follows. Your output format should be exactly the same.

Test 1:

Please input an integer: 123

Result: 321

Test 2:

Please input an integer: -4567

Result: -7654

Test 3:

Please input an integer: 9876543

Result: 3456789

Q.11 (6) In C/C++, char can be used to store a number. For example, we can assign 10 to a char variable using the statement: `char x = 10;`

Write a C++ program that uses the looping technique to execute the following statement 2,000 times.

`cout << "HK" << endl;`

You can declare data type char (i.e., char, signed char or unsigned char) only in your program. Use of other data types such as bool, int, float or string is prohibited.

```
#include <iostream>

using namespace std;

int main() {

}

}
```

~ End of Quiz ~