207SE Lab 1 – Introduction to operating systems

Your task

a) In **one paragraph** describe what you feel the future of operating systems will be. You might include diagrams to support your predictions and describe how the future operating systems will differ from the current one.
.

b) Complete either activity b1 or b2 below. (**Do not do both**!!)

Evidence

The paragraph the future of operating systems, and commented source code with output examples for **either** activity b1 or b2.

Activity b1

Write a simple program (or adapt the C++ program in Appendix A) to parse a string to determine if it fulfils one of the following grammar order rules. Below are rules related to the basic grammar. For example in the grammar, an <agent word> is followed by an <action word> and the <action word> is follow by a <object word>.

Grammar rules

Correct sentence structure = <agent word> <action word> <object word>
Correct sentence structure = <agent word > <action word > <colour word > <object word >
Correct sentence structure = <agent> <action> <direction>
Correct sentence structure = <pronoun> <action> <object>
Correct sentence structure = <pronoun> <action> <direction>

Words marking up vocabulary

Agent Word:-	bot mike	Action words:-	pick put lift drop go
Direction word:-	forward backwards left right	Pronoun word:-	I you we
Objects words:-	nuts plum cat cup	Colour words:-	red blue

Examples of grammatically correct and incorrect inputs

bot pick plum	✓	We drop cup	✓
I go nut	✓	bot lift left	✓
bot pick plum plum	✗	drop cup	✗
nut go left	✗	left left left	✗

Appendix A

```
//This C++ code is used to take an input string and put words in an array
#include <iostream>
#include <string>
#include <sstream>
using namespace std;

int main() {
        //set up input string
        string input="bot pick ball";
        //initalise input stream
        stringstream currentstring(input);
        int count=-1;
        string word[10];
        //Repeatedly put words in string array
        while (currentstring.good()) {
                count=count+1;
                currentstring >> word[count];
        }
        return 0;
}
```

To compile and run C++ in our server use

1. Save file with a .cc extension
2. Type g++ -o parser string.cc at the command prompt
3. Type ./parser at the command prompt

Activity b2

Write a simple program in at least three (3) programming languages. It should display your full name broken into blocks. The length of the block should be equal to the first digit in your university user id. If your name is so unique it has no digit, use the **LAST** digit of your student ID. Each block should be on a new line. For example if Graeme Stewarts' id is ab247 the output would be.

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