

Q1. Given a non-negative number represented as an vector of digits,

add 1 to the number (increment the number represented by the digits).

The digits are stored such that the most significant digit is at the head of the vector.

Example:

If the vector has [1, 2 ,3]

the returned vector should be [1, 2 ,4]

as $123 + 1 = 124$

Explain your logic briefly.

Q2.

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

int main()
{
    istringstream iss;

    string value = "32,40,50,80,902";

    iss.str (value); //what does this do???
    for (int i = 0; i < 5; i++) {
        string val;
        iss >> val;
        cout << i << endl << val <<endl;
    }

    return 0;
}
```

```
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#include <sstream>
#include <string>
using namespace std;

int main()
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    istringstream iss;

    string value = "32 40 50 80 902";

    iss.str (value); //what does this do???
    for (int i = 0; i < 5; i++) {
        string val;
        iss >> val;
        cout << i << endl << val <<endl;
    }

    return 0;
}
```

Explain the output in both cases briefly.

Q3.

```
#include <sstream>
#include <iostream>

int main () {
    std::ostringstream foo;
    std::ostringstream bar (std::ostringstream::ate);

    foo.str("Test string");
    bar.str("Test string");

    foo << 101;
    bar << 101;

    std::cout << foo.str() << '\n';
    std::cout << bar.str() << '\n';

    return 0;
}
```

Explain the output in brief.

Q4.

Given a vector of size 5 consisting of non negative integers, arrange them such that they form the largest number.

For example:

Given [3, 30, 34, 5, 9], the largest formed number is 9534330.

Explain your approach in brief.