**Problem 1** Write a function called removeFirst that removes the first digit of a positive integer and returns the result (or returns 0 if the integer has only one digit). For example, a program that uses the function removeFirst follows.

```cpp
text
int main() {
    cout << removeFirst(19683) << endl; // prints 9683
    cout << removeFirst(11) << endl; // prints 1
    cout << removeFirst(1) << endl; // prints 0
    return 0;
}
```

**Problem 2** Write a function called sumEven that returns the sum of the even digits in a positive integer parameter. For example, a program that uses the function sumEven follows.

```cpp
text
int main() {
    cout << sumEven(23) << endl; // prints 2
    cout << sumEven(1212) << endl; // prints 4
    cout << sumEven(777) << endl; // prints 0, because there are none
    return 0;
}
```

**Problem 3** Write a function called firstEven that returns the first even digit in a positive integer parameter. It should return -1 if there are no even digits. For example, a program that uses the function firstEven follows.

```cpp
text
int main() {
    cout << firstEven(23) << endl; // prints 2
    cout << firstEven(1416) << endl; // prints 4
    cout << firstEven(777) << endl; // prints -1
    return 0;
}
```

**Problem 4** Write a function called addThrees that inserts a 3 before each digit of a positive integer parameter. For example, a program that uses the function addThrees follows.

```cpp
text
int main() {
    cout << addThrees(3) << endl; // prints 33
    cout << addThrees(1313) << endl; // prints 31333133
    cout << addThrees(777) << endl; // prints 373737
    return 0;
}
```

**Problem 5** Write a function called twos that deletes all digits that are not multiples of 2 from a positive integer parameter. For example, a program that uses the function twos follows.

```cpp
text
int main() {
    cout << twos(23) << endl; // prints 2
    cout << twos(1212) << endl; // prints 22
    cout << twos(777) << endl; // prints 0, because nothing is left
    return 0;
}
```
Problem 6 Consider the following C++ program.

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

int fun(int x, int &y) {
    if (x < 0) y = -x;
    if (x <= 0) return 0;
    return x % 10 + 2 * fun(x/100, y);
}

int main() {
    int c, x = 1, y = 5;
    if ((x % y) > (y % x)) cout << x; // line (a)
    cout << endl;
    for(c = x; c < y; c++) cout << c; // line (b)
    cout << endl;
    cout << fun(-2, y) << endl; // line (c)
    cout << y << endl; // line (d)
    cout << fun(31459, y) << endl; // line (e)
}
```

(a) What is the output at line (a)?
(b) What is the output at line (b)?
(c) What is the output at line (c)?
(d) What is the output at line (d)?
(e) What is the output at line (e)?