Functions

MyFactorial

```
function fact = MyFactorial(x)
     fact = 1;
     if x < 0
         fact = -1;
     elseif x == 0
         fact = 1;
     else
         for i = x : -1 : 1
             fact = fact * i;
         end
     end
end
```

MyRecFactorial

```
function fact = MyRecFactorial(x)
    if x < 0
        fact = -1;
    elseif x == 0
        fact = 1;
    else
        fact = x * MyRecFactorial(x - 1);
    end
end
```

Money

```
function M = Money(m)
    M = [];
    banknote_array = [200 100 50 20 10 5 1];

    index = 1;
    while m ~= 0
        quo = floor(m / banknote_array(index));
        if quo >= 1
            m = m - quo * banknote_array(index);
            col_vec = [banknote_array(index); quo];
            M = [M col_vec];
        end
        index = index + 1;
    end
end
```

Digit

```
function M = Digit(num)
    M = [];
    digit_num = 0;
```

```
    i = 1;
    while num ~= 0
        f = floor(num / 10^i);
        d = (num - f * 10^i) / 10^(i - 1);
        num = f * 10^i;
        col_vec = [10^(i - 1); d];
        M = [col_vec M];
        digit_num = digit_num + 1;
        i = i + 1;
    end
    col_vec = [0; digit_num];
    M = [col_vec M];
end
```