

Homework2 2

Hanlin Cai 832002117 20122161

Code :

```
#include<iostream>
#include <math.h>
using namespace std;

int main(){
    double battery;
    double resistor;
    //double capacitor;
    double time;
    double RC;
    double current;
    cout << "Please input related circuit parameters : " << endl;
    cout << "voltage = ";
    cin >> battery;
    cout << "R = ";
    cin >> resistor;
    cout << "RC = ";
    cin >> RC;
    cout << "t = ";
    cin >> time;

    current = (battery/resistor)*pow(2.71828, -(time/RC));
    cout << "Current = " << current << endl;

    return 0;
}

//This code is created by Hanlin Cai
//MU    number : 20122161
//FZU number : 832002117
```

Question a:

Set 1 : Current = 1.1858

Set 2 : Current = 2.30254

Question b:

Voltage <i>V</i> (Volts)	Resistance <i>R</i> (Ohms)	<i>RC</i> (Time Constant)	Time <i>t</i> (Seconds)	Current <i>i</i> (Amps)
35	10	0.16	0.11	
35	10	0.16	0.44	
35	10	0.16	0.83	
15	10	0.55	0.11	
15	10	0.55	0.44	
15	10	0.55	0.067	
6	1000	2.6	12.4	

Answer:

Current = 1.75991

Current = 0.223748

Current = 0.0195509

Current = 1.2281

Current = 0.673994

Current = 1.32796

Current = 5.09216e-05