

### Additional material 3

```
#include <fstream>
#include <iomanip>
#include <cmath>
#define g 9.8
#define kOverM 1
#define deltaT 0.05
#define eps 0.17
using namespace std;
ofstream fout("date.out");

int main()
{
    long double v=0,t=0,y=0;
    long double a=-g-kOverM*v;
    while (abs(a)>eps)
    {
        t+=deltaT;
        y+=deltaT*v;
        v+=deltaT*a;
        a=-g-kOverM*v;
        fout<<setw(6)<<t<<setw(25)<<y<<setw(12)<<v<<setw(12)<<a<<endl;
    }
    return 0;
}
```