```
#include<iostream>
#include<math.h>
using namespace std;
#define pi 3.14
#define u0 4*pi*1e-7
#define r 105*1e-3
class phi
{
    public :
    int angle_1()
    {
        double N,i=0;
        double outcome=0;
        std::cout<<"请输入匝数N"<<endl;
        std::cin>>N;
        std::cout<<"请输入电流大小(mA)"<<endl;
        std::cin>>i;
        std::cout<<"B0(T)的大小为："<<endl;
        outcome=(u0*N*i*1e-3)/(2*r);
        std::cout<<outcome<<endl;
        std::cout<<"BG(T)的大小为："<<endl;
        std::cout<<outcome<<endl;
        return 0;
    }
    int N_2()
    {
        double i,p=0;//p代表角度
        double outcome=0;
        double N=30;
        std::cout<<"请输入电流大小(mA)"<<endl;
        std::cin>>i;
        std::cout<<"请输入罗盘偏转角度数："<<endl;
        std::cin>>p;
        std::cout<<"B0(T)的大小为："<<endl;
        outcome=(u0*N*i*1e-3)/(2*r);
        std::cout<<outcome<<endl;
        std::cout<<"BG(T)的大小为："<<endl;
        std::cout<<outcome/tan(p)<<endl;
        return 0;
    }
    int I_3()
    {
        double N,p,outcome=0;
        double i=100;
        std::cout<<"请输入匝数N"<<endl;
        std::cin>>N;
        std::cout<<"请输入罗盘偏转角度数："<<endl;
        std::cin>>p;
        std::cout<<"B0(T)的大小为："<<endl;
        outcome=(u0*N*i*1e-3)/(2*r);
        std::cout<<outcome<<endl;
        std::cout<<"BG(T)的大小为："<<endl;
```

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        std::cout<<outcome/tan(p)<<endl;
        return 0;
    }

};
int main()
{
    phi A;int a;
    do{
        cout<<"1. 表一 罗盘指针指向45°"<<endl;
        cout<<"2. 表二 圆环线匝数N=30匝"<<endl;
        cout<<"3. 表三 输出电流为100mA"<<endl;
        cout<<"4. 按0退出"<<endl;
        cout<<"请选择你要进行的实验"<<endl;
        cin>>a;
        switch (a)
        {
        case 1:
            A.angle_1();
            break;
        case 2:
            A.N_2();
            break;
        case 3:
            A.I_3();
            break;
        default:
            break;
        }
    }while(a!=0);
    return 0;
}
```