

```
//  
// main.c  
// 1_ej1  
//  
// Created by Cristina Zamarrón Sobrinos on 20/09/2019.  
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//
```

```
#include <stdio.h>  
#include <math.h>  
#include <Termostato.h>
```

```
unsigned int LeerConsigna(unsigned int consigna);  
unsigned int MedirTemp();  
unsigned int Control(unsigned consigna, unsigned temp);  
void EncenderApagar(unsigned cont);
```

```
int main(void) {  
    unsigned int *consigna=30;  
    unsigned temp_actual=0;  
    unsigned cont=0; //0 apagado, 1 encendido
```

```
    while(1){  
        consigna = leerConsigna(&consigna);  
        temp_actual = MedirTemp();  
        cont = Control(consigna, temp_actual);  
        EncenderApagar(cont);  
    }  
    return 0;  
}
```

```
unsigned int LeerConsigna(unsigned int consigna) {  
  
    int tec = LeerTeclado();  
  
    if(tec==1){  
        consigna++;  
    }else if(tec==2){  
        consigna++;  
    }  
    return consigna;  
}
```

```
unsigned int MedirTemp() {  
  
    unsigned int temp;  
  
    LanzarConversionAD();  
    while(Convirtiendolo());  
    temp = LeerConversorAD();  
    temp = (long)temp *100/1023;  
  
    return temp;  
}
```

```
unsigned int Control(unsigned consigna, unsigned temp) {  
  
    unsigned int calefaccion;  
  
    if(temp<consigna){  
        calefaccion = 1;  
    }else if (temp>consigna){  
        calefaccion = 0;  
    }  
    return calefaccion;  
}
```

```
void EncenderApagar(unsigned cont) {  
  
    if(cont==1){  
        ArrancaCalefaccion();  
    }else if(cont==0){  
        ApagaCalefaccion();  
    }  
  
    return;  
}
```