```c
/*Bai 1:
Chuong trinh nhap vao thong tin sinh vien
->In thong tin sinh vien da nhap len man hinh
- Xep loai hoc luc cua sinh vien
*/
#include <stdio.h>
#include <conio.h>
#include <string.h>

//Khai bao cau truc sinh vien
typedef struct{
    char hoten[40];
    float dtb;
    char *xeploai;
}sinhvien;

//Ham xep loai hoc luc dua vao diem trung binh cua sv
//Ket qua tra ve la dia chi cua chuoi hoc luc
char *XepLoaiDTB(float d)
{
    char *xl;
    if(d >=8 )
    {
        xl = "Gioi";
        return xl;
    }
    if(d >= 6.5)
    {
        xl = "Kha";
        return xl;
    }
    if(d >= 5)
    {
        xl = "TB";
        return xl;
    }
    xl = "Khong dat";
    return xl;
}

//Ham nhap vao 1 sinh vien, truyen theo kieu tham bien
void NhapSV(sinhvien &sv)
{
    fflush(stdin);
    printf("\nNhap ho ten sv:");
    gets(sv.hoten);
    fflush(stdin);
    printf("\nNhap diem trung binh:");
    scanf("%f",&sv.dtb);
    sv.xeploai = XepLoaiDTB(sv.dtb);
}
//Ham xuat thong tin sinh vien
void XuatSV(sinhvien sv)
{
    int i,j;
    printf("%s",sv.hoten);
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57      for(i = 0; i <  30-strlen(sv.hoten); i++)
58          printf(" ");
59      printf("%.1f",sv.dtb);
60      for(j = 0; j < 17; j++)
61          printf(" ");
62      puts(sv.xeploai);
63  }
64  void main()
65  {
66      sinhvien sv[100]; //khoi tao vung nho 100 sinh vien
67      int i,n;
68      clrscr();
69      printf("\nNhap so luong sinh vien:");
70      scanf("%d",&n);
71      for(i = 0; i < n; i++)
72      {
73          printf("\nNhap thong tin sv %d:",i+1);
74          NhapSV(sv[i]);
75      }
76      printf("************************************************************\n");
77      printf("HO TEN");
78      for(i = 0; i < 30-strlen("HO TEN"); i++)
79          printf(" ");
80      printf("DTB");
81      for(i = 0; i < 20 - strlen("DTB"); i++)
82          printf(" ");
83      printf("XEP LOAI");
84      printf("\n");
85      for(i = 0; i < n; i++)
86      {
87          XuatSV(sv[i]);
88      }
89      printf("************************************************************\n");
90      getch();
91  }
92  /***************************************************************************
93  ***************************************************************************/
94  /*Cau 2:
95  Chuong trinh nhap vao 2 phan so
96  ->Tinh tong, hieu, tich, thuong cua hai phan so sau khi da toi gian
97  */
98  #include<stdio.h>
99  #include<conio.h>
100 #include<math.h>
101 #include<stdlib.h>
102 #include<string.h>
103
104 typedef struct{
105     int tuso;
106     int mauso;
107 }phanso;
108
109 //Ham tin UCLN cua hai so nguyen
110 int UCLN(int a, int b)
111 {
112     //Tri tuyet doi hai so a,b
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113        a=abs(a);
114        b=abs(b);
115        if(a == b)
116            return a;
117        while(a != b)
118        {
119            if(a > b)
120                a = a-b;
121            else
122                b = b - a;
123        }
124        return a;
125    }
126    //Ham nhap phan so
127    void NhapPS(phanso &ps)
128    {
129        printf("\nNhap tu so:");
130        scanf("%d",&ps.tuso);
131        printf("Nhap mau so:");
132        scanf("%d",&ps.mauso);
133    }
134
135    //Ham tinh tong cua hai phan so
136    void TongPS(phanso ps1, phanso ps2)
137    {
138        int tu = ps1.tuso * ps2.mauso + ps2.tuso*ps1.mauso;
139        int mau = ps1.mauso * ps2.mauso;
140        int uc =  UCLN(tu,mau);
141        printf("\nTong cua hai phan so la: %d / %d",tu/uc, mau/uc);
142    }
143    //Ham tinh hieu cua hai phan so a,b
144    void HieuPS(phanso ps1, phanso ps2)
145    {
146        int tu = ps1.tuso * ps2.mauso - ps2.tuso*ps1.mauso;
147        int mau = ps1.mauso * ps2.mauso;
148        int uc =  UCLN(tu,mau);
149        printf("\nHieu cua hai phan so la: %d / %d",tu/uc, mau/uc);
150    }
151    //Ham tinh tich cua hai phan so a,b
152    void TichPS(phanso ps1, phanso ps2)
153    {
154        int tu = ps1.tuso * ps2.tuso;
155        int mau = ps1.mauso * ps2.mauso;
156        int uc =  UCLN(tu,mau);
157        printf("\nTich cua hai phan so la: %d / %d",tu/uc, mau/uc);
158    }
159    //Ham tinh thuong cua hai phan so a,b
160    void ThuongPS(phanso ps1, phanso ps2)
161    {
162        int tu = ps1.tuso * ps2.mauso;
163        int mau = ps1.mauso * ps2.tuso;
164        int uc =  UCLN(tu,mau);
165        printf("\nThuong cua hai phan so la: %d / %d",tu/uc, mau/uc);
166    }
167    void main()
168    {
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    phanso ps1, ps2;     //Khai bao hai phan so
    clrscr();
    printf("\nNhap phan so thu nhat:");
    NhapPS(ps1);
    printf("\nNhap phan so thu hai:");
    NhapPS(ps2);
    TongPS(ps1,ps2);
    HieuPS(ps1,ps2);
    TichPS(ps1,ps2);
    ThuongPS(ps1,ps2);
    getch();
}
/***********************************************************************
 **********************************************************************/
/*Bai 3:
Chuong trinh nhap vao thong tin sinh vien su dung con tro
->In thong tin sinh vien da nhap len man hinh
- Xep loai hoc luc cua sinh vien
*/
#include <stdio.h>
#include <conio.h>
#include <string.h>
#include <stdlib.h>

//Khai bao cau truc sinh vien
typedef struct{
    char hoten[40];
    float dtb;
    char *xeploai;
}sinhvien;

//Ham xep loai hoc luc dua vao diem trung binh cua sv
//Ket qua tra ve la dia chi cua chuoi hoc luc
char *XepLoaiDTB(float d)
{
    char *xl;
    if(d >=8 )
    {
        xl = "Gioi";
        return xl;
    }
    if(d >= 6.5)
    {
        xl = "Kha";
        return xl;
    }
    if(d >= 5)
    {
        xl = "TB";
        return xl;
    }
    xl = "Khong dat";
    return xl;
}

//Ham nhap vao 1 sinh vien, truyen vao dia chi cua sv
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```c
225    void NhapSV(sinhvien *sv)
226    {
227        float t;
228        fflush(stdin);
229        printf("\nNhap ho ten sv:");
230        gets(sv->hoten);
231        fflush(stdin);
232        printf("\nNhap diem trung binh:");
233        scanf("%f",&t); //nhap vao bien t truoc khi dua vao dtb
234        sv->dtb = t;
235        sv->xeploai = XepLoaiDTB(sv->dtb);
236    }
237
238    //Ham xuat thong tin sinh vien
239    void XuatSV(sinhvien *sv)
240    {
241        int i,j;
242        printf("%s",sv->hoten);
243        for(i = 0; i < 30-strlen(sv->hoten); i++)
244            printf(" ");
245        printf("%.1f",sv->dtb);
246        for(j = 0; j < 17; j++)
247            printf(" ");
248        puts(sv->xeploai);
249    }
250    void main()
251    {
252        //sinhvien sv[100];
253        sinhvien *sv;
254        sv = (sinhvien*) malloc(sizeof(sinhvien)*100);//khai bao vung nho luu 100 sv
255        int i,n;
256        clrscr();
257        printf("\nNhap so luong sinh vien:");
258        scanf("%d",&n);
259        for(i = 0; i < n; i++)
260        {
261            printf("\nNhap thong tin sv %d:",i+1);
262            NhapSV(sv+i);
263        }
264        printf("************************************************************\n");
265        printf("HO TEN");
266        for(i = 0; i < 30-strlen("HO TEN"); i++)
267            printf(" ");
268        printf("DTB");
269        for(i = 0; i < 20 - strlen("DTB"); i++)
270            printf(" ");
271        printf("XEP LOAI");
272        printf("\n");
273        for(i = 0; i < n; i++)
274        {
275            XuatSV(sv+i);
276        }
277        printf("************************************************************\n");
278        getch();
279    }
280
```