第10章 结构体和共用体

——结构体指针

结构体指针的定义和初始化

■ 如何定义指向结构体变量的指针?

```
STUDENT *pt;
pt = &stul;
等价于

STUDENT *pt = &stul;
typedef structure
{
```



```
typedef struct student
{
   long studentID;
   char studentName[10];
   char studentSex;
   DATE birthday;
   int score[4];
}STUDENT;
```

```
成员2
         成员3
         成员4
           成
           员
typedef
                 date
         struct
  int
       year;
       month;
   int
  int
       day;
}DATE;
```

stu1

成员1

pt

通过结构体指针访问结构体成员

■ 如何定义指向结构体变量的指针?

```
STUDENT stu1;
STUDENT *pt = &stu1;
```

- 如何访问结构体指针变量指向的结构体成员呢?
- 通过成员选择运算符访问

```
stu1.studentID = 1;
(*pt).studentID = 1;
```

■ 通过指向运算符访问

```
pt -> studentID = 1;
```

```
typedef struct student
{
   long studentID;
   char studentName[10];
   char studentSex;
   DATE birthday;
   int score[4];
}STUDENT;
```

```
stu1
         成员1
pt
         成员2
         成员3
         成员4
           成
           员
        struct
```

```
typedef struct date
{
  int year;
  int month;
  int day;
}DATE;
```

通过结构体指针访问结构体成员

■ 当结构体<mark>嵌套</mark>时,如何访问结构体指针变量 指向的结构体成员?

```
stul. birthday. year = 1999;
(*pt). birthday. year = 1999;
pt -> birthday. year = 1999;
```

```
typedef struct student
{
  long studentID;
  char studentName[10];
  char studentSex;
  DATE birthday;
  int score[4];
}STUDENT;
```

```
typedef struct date
{
  int year;
  int month;
  int day;
}DATE;
```

结构体数组的指针的定义和初始化

■ 如何定义指向结构体数组的指针?

```
stu[30];
STUDENT
STUDENT
        *pt;
pt = stu;
等价于
STUDENT
         *pt = stu;
等价于
         *pt = &stu[0];
STUDENT
```

```
typedef struct student
{
  long studentID;
  char studentName[10];
  char studentSex;
  DATE birthday;
  int score[4];
}STUDENT;
```

```
typedef struct date
{
  int year;
  int month;
  int day;
}DATE;
```

通过结构体数组的指针访问结构体成员

■ 如何访问结构体指针指向的结构体数组成员?

```
STUDENT stu[30];
STUDENT *pt = stu;
pt = &stu[0];
pt -> studentID

等价于 (*pt).studentID

stu[0].studentID
```

■ pt++是什么意思?

```
typedef struct student
{
  long studentID;
  char studentName[10];
  char studentSex;
  DATE birthday;
  int score[4];
}
STUDENT;
```

```
stu[30]

stu[0]

stu[1]

stu[2]

stu[3]

stu[4]

.....

stu[29]
```

pt

```
typedef struct date
{
  int year;
  int month;
  int day;
}DATE;
```