

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？

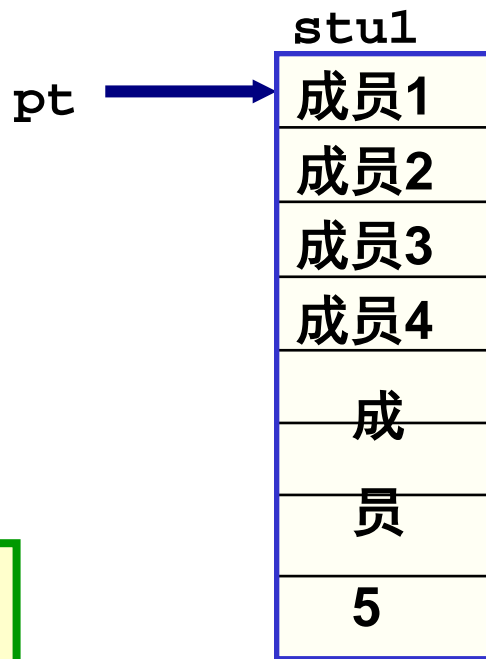
```
STUDENT stu1;
```

```
STUDENT *pt;
```

```
pt = &stu1;
```

等价于

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



```
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？

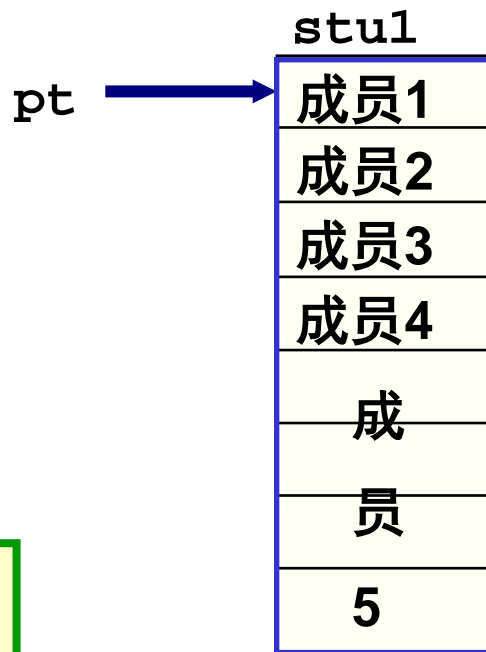
- 通过成员选择运算符访问

```
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;
```

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

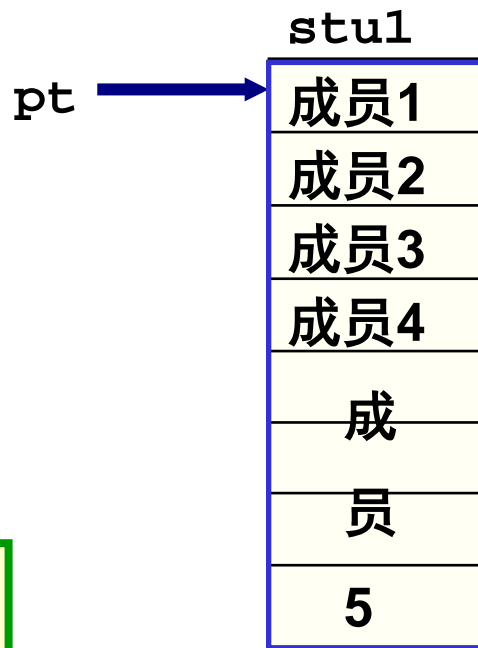
通过结构体指针访问结构体成员

- 当结构体嵌套时，如何访问结构体指针变量指向的结构体成员？

```
stu1. 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？

```
STUDENT stu[30];
```

```
STUDENT *pt;
```

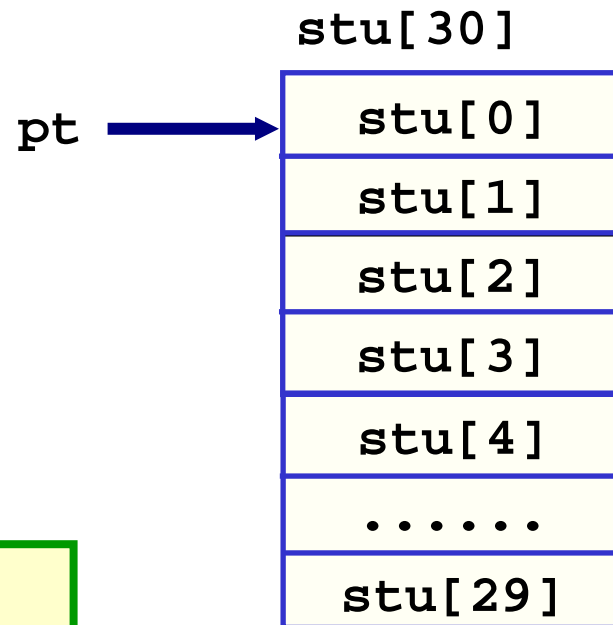
```
pt = stu;
```

等价于

```
STUDENT *pt = stu;
```

等价于

```
STUDENT *pt = &stu[0];
```



```
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;
```

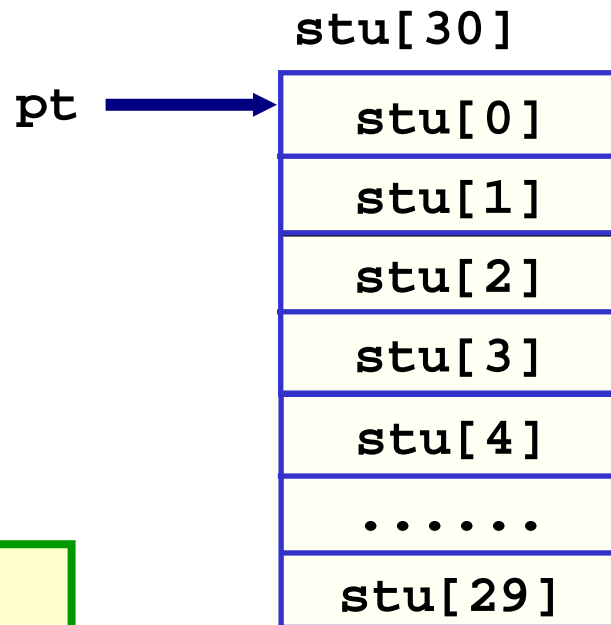
```
pt = &stu[0];
```

```
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;
```

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