

```
1 struct SinhVien
2 {
3     int maSV;
4     string hoTen;
5     float diemTB;
6     string xepLoai;
7 };
8
9 struct Node
10 {
11     SinhVien data;
12     Node *pNext;
13 };
14
15 struct List
16 {
17     Node *pHead;
18     Node *pTail;
19 };
20
21 Node *initNode(SinhVien sv)
22 {
23     Node *p = new Node;
24     p->data = sv;
25     p->pNext = NULL;
26
27     return p;
28 }
29
30 void initList(List &l)
31 {
32     l.pHead = NULL;
33     l.pTail = NULL;
34 }
35
36 void addHead(List &l, Node *p)
37 {
38     if (l.pHead == NULL)
39     {
40         l.pHead = p;
41         l.pTail = p;
42     }
43     else
44     {
45         p->pNext = l.pHead;
46         l.pHead = p;
47     }
48 }
49
```

```

50 void addTail(List &l, Node *p)
51 {
52     if (l.pHead == NULL)
53     {
54         l.pHead = p;
55         l.pTail = p;
56     }
57     else
58     {
59         l.pTail->pNext = p;
60         l.pTail = p;
61     }
62 }
63
64 void initDataListSV(List &dsSV)
65 {
66     SinhVien sv1 = {1, "Nguyen Van A", 8.5, ""};
67     addHead(dsSV, initNode(sv1));
68
69     addHead(dsSV, initNode({8, "Nguyen Van H", 8.5, ""}));
70 }
71
72 Node* findSV(List l, int maSV)
73 {
74     for (Node *p = l.pHead; p != NULL; p = p->pNext)
75     {
76         if (p->data.maSV == maSV)
77         {
78             return p;
79         }
80     }
81
82     return NULL;
83 }

```