

```

1: #include<iostream>
2: using namespace std;
3:
4: class hashing
5: {
6:     private:
7:         int p[500], q[500], h[5], n;
8:     public:
9:         hashing()
10:        {
11:            n = 0;
12:            for(int i = 0; i < 5; i++)
13:            {
14:                h[i] = -1;
15:            }
16:        }
17:
18:        void put(int k)
19:        {
20:            p[n] = k;
21:            int i = k % 5;
22:            q[n] = h[i];
23:            h[i] = n;
24:            n++;
25:        }
26:
27:        void print(int k)
28:        {
29:            int i = h[k];
30:            cout << "Number with remainder " << k << " are:\n";
31:            while(i != -1)
32:            {
33:                cout << p[i] << " ";
34:                i = q[i];
35:            }
36:        }
37:
38:        void search(int k)
39:        {
40:            int i = k % 5;
41:            int index = h[i];
42:            while(index != -1)
43:            {
44:                if(p[index] == k)
45:                {
46:                    cout << "Present. \n";
47:                    return;
48:                }
49:                index = q[index];
50:            }

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51:         cout << "Absent. \n";
52:     }
53:
54:     void del(int k)
55:     {
56:         int i = k % 5;
57:         int index = h[i];
58:         if(p[h[i]] == k)
59:         {
60:             h[i] = q[h[i]];
61:         }
62:         else
63:         {
64:             while(index != -1)
65:             {
66:                 int temp = index;
67:                 if(p[q[index]] == k)
68:                 {
69:                     q[index] = q[q[index]];
70:                     return;
71:                 }
72:                 index = q[index];
73:             }
74:         }
75:         cout << k << " is not in the list. \n";
76:     }
77: };
78:
79: int main()
80: {
81:     hashing temp;
82:     int n;
83:     cout << "Enter num of elements: ";
84:     cin >> n;
85:     cout << "Enter numbers: \n";
86:     for(int i = 0; i < n; i++)
87:     {
88:         int num;
89:         cin >> num;
90:         temp.put(num);
91:     }
92:
93:     cout << endl;
94:     temp.search(19);
95:     temp.search(20);
96:     cout << endl;
97:
98:     temp.print(0);
99:     cout << endl;
100:    temp.print(1);

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101:     cout << endl;
102:     temp.print(2);
103:     cout << endl;
104:     temp.print(3);
105:     cout << endl;
106:     temp.print(4);
107:     cout << endl;
108:
109:
110:     temp.del(15);
111:     temp.del(19);
112:
113:     temp.print(0);
114:     cout << endl;
115:     temp.print(1);
116:     cout << endl;
117:     temp.print(2);
118:     cout << endl;
119:     temp.print(3);
120:     cout << endl;
121:     temp.print(4);
122:     cout << endl;
123:
124:     return 0;
125: }
```