

1. [3\*]

1.1 Define the following template:

```
template<typename T> struct S { T val; };
```

1.2 Add a constructor, so that you can initialize with a T.

1.3 Define variables of types S<int>, S<char>, S<double>, S<string> and S<vector<int>>, initialize them with values of your choice.

1.4 Read those values and print them.

1.5 Add a function template get() that returns a reference to val.

1.6 Put the definition of get() outside the class

1.7 Make val private

1.8 Do 1.4 again using get()

1.9 Add a set() function template so that you can change val.

1.10 Replace get() and set() with an operator[].

1.11 Provide const and non-const versions of operator[].

1.12 Define the following function:

```
template<class T> read_val (T& v) ;
```

that reads from cin into v.