

List Get Middle

This is a **pair** exercise and must be completed in your **tutorial** or **lab** with your partner.

For this activity, you will be looking at a linked list.

Download [list.h](#), or copy it into your current directory on a CSE system by running

```
$ cp /web/cs1511/17s2/week11/files/list.h .
```

Make sure you understand the `list` and `node` data structures before beginning this task.

Create a file called `listGetMiddle.c` that includes the `list.h` header file. In it, you should implement `listGetMiddle`, a function which takes a linked list and returns the value of the middle item in the list, which is calculated with this formula (assuming the list is counted from 0, as with arrays):

```
int middle = listLength(l) / 2;
```

It should assume that it is not given an empty list. It should have this prototype:

```
int listGetMiddle (List l);
```

You should write your own tests in a separate file; `listGetMiddle.c` should *not* contain a `main`.

To run some simple automated tests:

```
$ 1511 autotest listGetMiddle
```

To run Styl-o-matic:

```
$ 1511 stylomatic listGetMiddle.c
Looks good!
```

You'll get advice if you need to make changes to your code.

Submit your work with the *give* command, like so:

```
$ give cs1511 wk11_listGetMiddle
```

Or, if you are working from home, upload the relevant file(s) to the `wk11_listGetMiddle` activity on [Give Online](#).