

2. Stack vs. Heap

Stack size is usually limited, heap is not:

```
$ ulimit -a | egrep 'stack|data'
data seg size      (kbytes, -d) unlimited
stack size         (kbytes, -s) 8192
$
```

main program can allocate on stack and pass to functions,
but functions can not allocate on stack and pass back to main:

```
char *f( int n)
{
    char s[n]; // allocated on stack

    return s; // won't work, space for s goes away when function returns
}

char *g( int n)
{
    char *s = malloc(n); // allocated on heap

    return s; // ok
}
```