Q1
m.v.t: "The Fifth Season"
r.v.t: "Black Swan Green"
d.v.t.: "The Fifth Season"

Q2
m.v.t: "The Fifth Season"
r.v.t: "The Fifth Season"
d.v.t.: "The Fifth Season"

Q3
m.v.t: "The Fifth Season"
r.v.t: "The Fifth Season"
d.v.t.: "The Fifth Season"

Q4
m.v.t: "The Obelisk Gate"
r.v.t: "The Fifth Season"
d.v.t.: "The Fifth Season"

Q5
m.v.t: "The Obelisk Gate"
r.v.t: "Broken Earth #1"
d.v.t.: "Broken Earth #1"
**Global Space**

<table>
<thead>
<tr>
<th>WARNING</th>
<th>x</th>
<th>&quot;MiLLissippi&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>y</td>
<td>&quot;Mississippi&quot;</td>
<td></td>
</tr>
<tr>
<td>z</td>
<td>&quot;Mississippi&quot;</td>
<td></td>
</tr>
</tbody>
</table>

**Call stack (growing downwards)**

```
replace2
  s | "MiLLissippi" |
  target | "L" |
  rep | "s" |
  before | "MiLL" |
  after | "issippi" |
  RETURN | "Mississippi" |
```

```
replace_first
  s | "Lissippi"
  target | "L" |
  rep | "s" |
  before | "Lissippi" |
  after | "issippi" |
  RETURN | "issippi" |
```

```
replace_first
  s | "MiLL"
  target | "L" |
  rep | "s" |
  before | "MiLL" |
  after | "issippi" |
  RETURN | "Mississippi" |
```

```
replace2
  s | "MiLLissippi"
  target | "L" |
  rep | "s" |
  before | "MiLL" |
  after | "issippi" |
  RETURN | "Mississippi" |
```

```
replace_first
  s | "MiLL"
  target | "L" |
  rep | "s" |
  before | "MiLL" |
  after | "issippi" |
  RETURN | "Mississippi" |
```

**Note that line 32 in replace2 appears to be an attempt to change the value of global variable WARNING, but actually creates a local variable WARNING within replace2’s frame.**

**Different programming languages have different rules/policies about whether/how functions can alter global variables; it's worth remembering this point.**
The spring 2021 CS1110 course staff has the following additional book recommendations for you!

Suggestions from Irene Hung:
*Dune* by Frank Herbert for scifi (movie's coming out too!)
*The Way of Kings* by Brandon Sanderson (fantasy)
*Children of Blood and Bone* by Tomi Adeyemi (ya fantasy)

Memoirs suggested by Priya Malla:
*Maybe You Should Talk to Someone*, by Lori Gottlieb;
*Born a Crime*, by Trevor Noah;

Suggestions from Ben Rosenberg for those looking for directly CS-related books:
*Gödel, Escher, Bach*, by Douglas Hofstadter
*The C Programming Language*, by Brian Kernighan and Dennis Ritchie