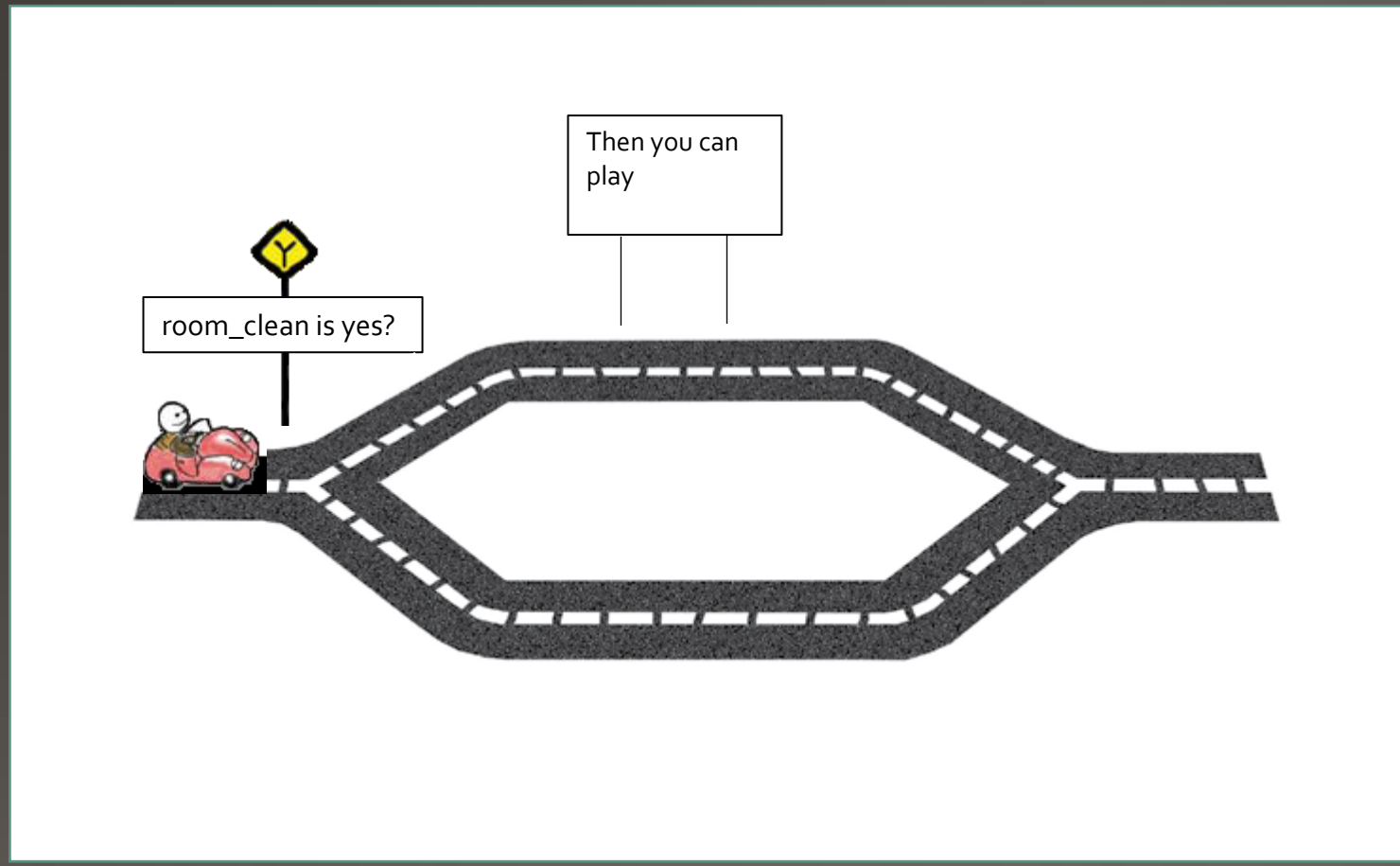
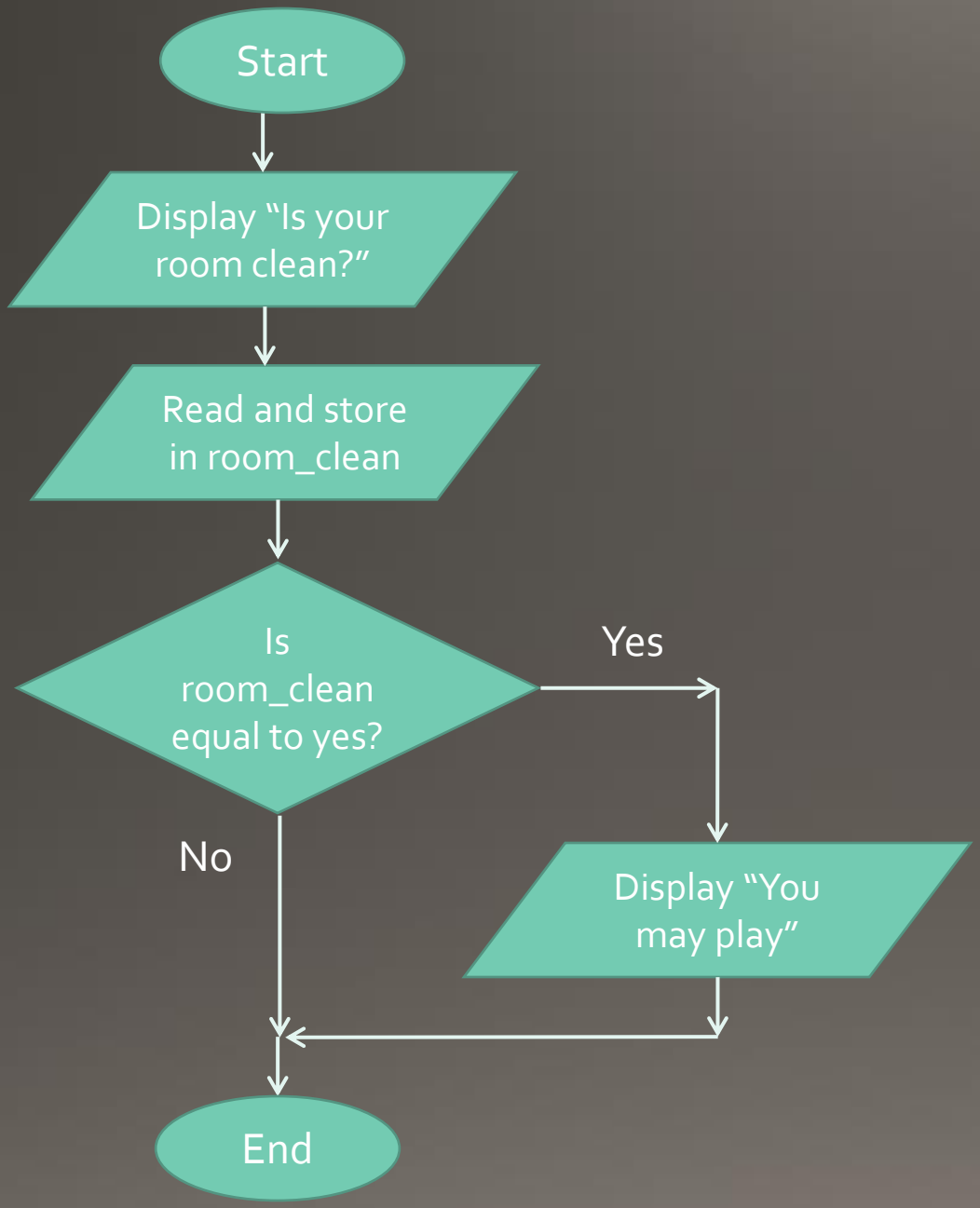
Selection Structures

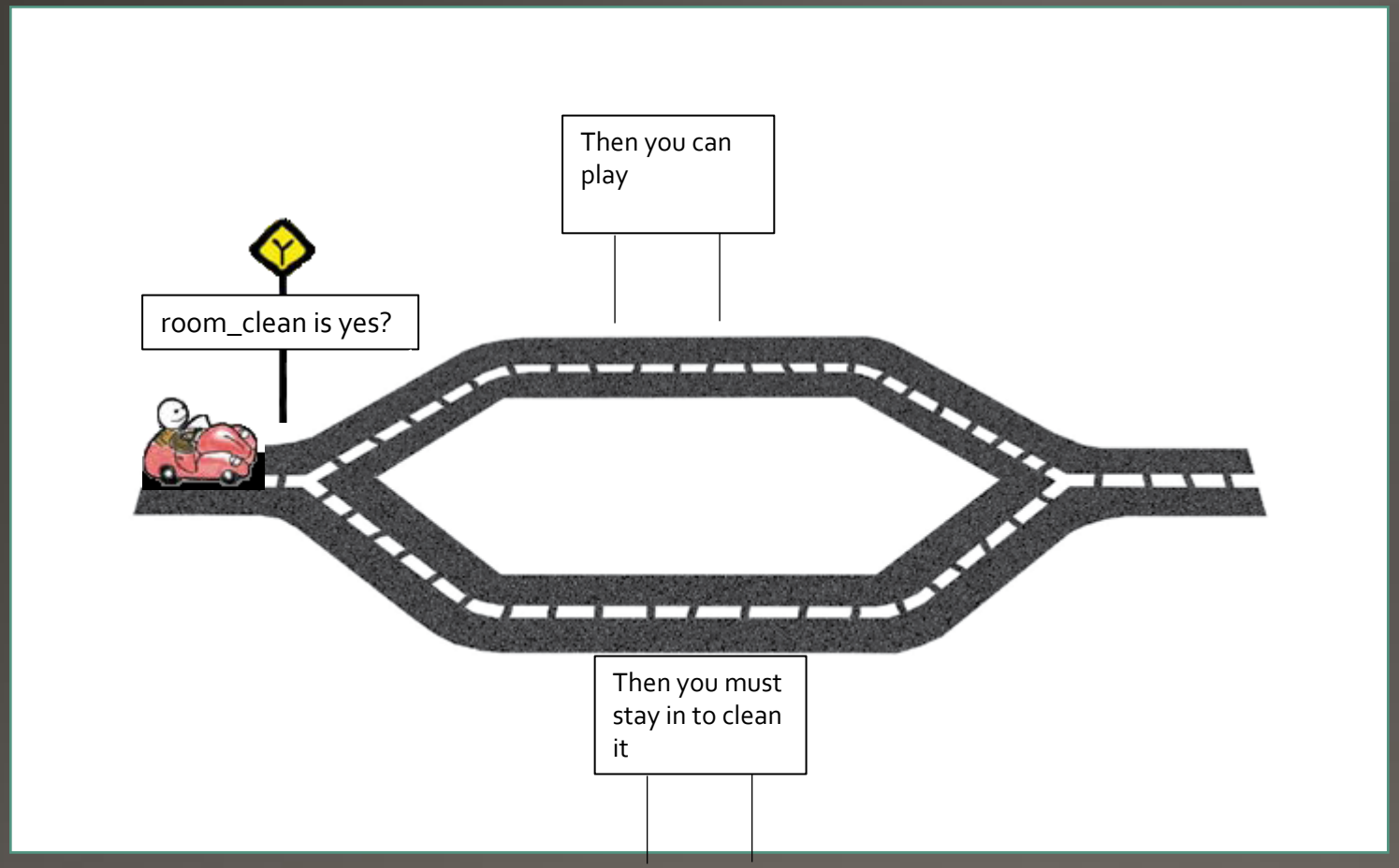
Chapter 4

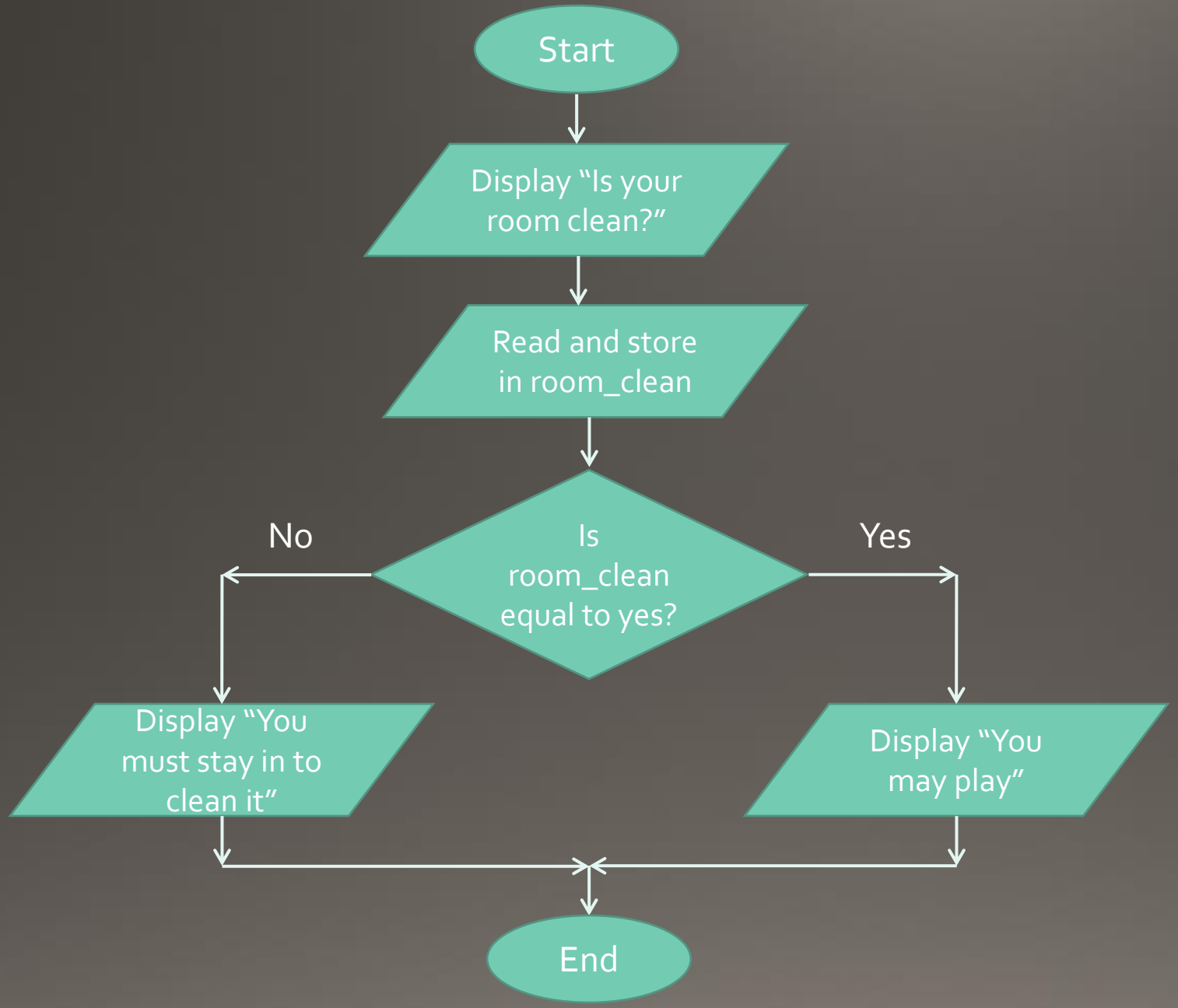

Then you can play
room_clean is yes?


Start
Display "Is your room clean?"
Read and store in room_clean
Is room_clean equal to yes?
Yes
No
Display "You may play"
End

The Code

```
room_clean = input("Is your room clean?  ")
if room_clean == "yes":
    print("You may play")
```


Then you can play
room_clean is yes?
Then you must stay in to clean it


Start
Display "Is your room clean?"
Read and store in room_clean
Is room_clean equal to yes?
No
Yes
Display "You must stay in to clean it"
Display "You may play"
End

The code

```
room_clean = input("Is your room clean?  ")
if room_clean == "yes":
    print("You may play")
else:
    print("Then you must stay in to clean it.")
```

Find the Errors

```
room_clean = input("Is your room clean?  ")
If room_clean == "yes":
    print("You may play")
print("Have fun!")
else
    print("Then you must stay in to clean it.")
```

Write the program

- Create a program that will tell the user if he or she passed the test based on the test score entered by the user. A passing grade is 60 or above.
- Now add to the program so that if the user fails the test they are told that as well.

Nested Selection Structures

- For when there is more than one choice.

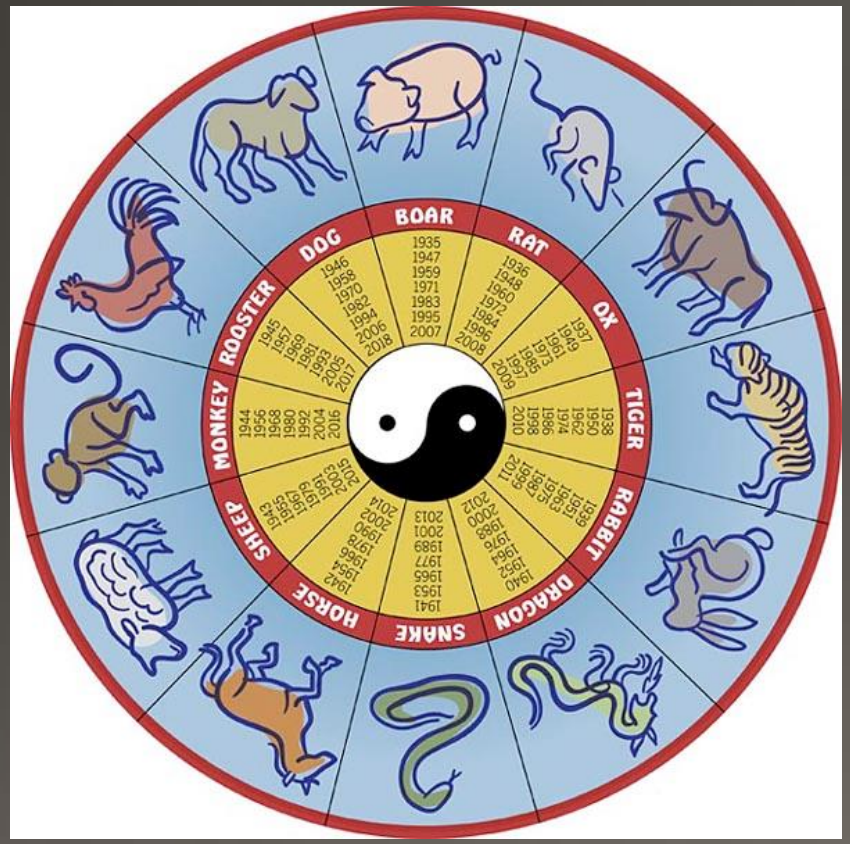
Remember this problem?

- Write a program that will take (or accept) a value from the user and print the corresponding letter grade. For instance, if the user enters 91, the program prints an A. But if the user enters 68, the program prints a D.
- How many choices are there?

elif

```
if (condition):
        statements
elif (condition):
        statements
else:
        statements
```

Algorithm for chinese zodiac



year % 12

0: monkey
1: rooster
2: dog
3: pig
4: rat
5: ox
6: tiger
7: rabbit
8: dragon
9: snake
10: horse
11: sheep

In-class exercise

- Write the program that gets the coordinates of the two endpoints of a line and tells the user if the line is horizontal, vertical, or neither.

Flags

- Saves a condition so that it may be used again without having to calculate it again

```
numerator = input(“Enter the numerator: ”)
denominator = input(“Enter the denominator: “)
okay = (denominator != 0)
if (okay):
        quotient = numerator / denominator
```