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Simmulation assignment 2

```
# clock time
duration = 1

# current signal. 1) Red 2) Green 3) Pending 4) Yellow
signal = 1

# duration at which the last signal was changed
change_of_signal = 0

# duration when the pedestrian interrupted
pedestrian_time = 70

# If the pedestrian is present or not
pedestrian_present = True


# running loop for 200 seconds
while duration <= 200:
    if signal == 1: # Red
        if duration - change_of_signal >= 60: # Red to be changed to green after 60 seconds
            # changing to green
            signal = 2
            change_of_signal = duration
            print("The light is now green")
        else:
            print(f"At {duration} seconds, the light is red")
    elif signal == 2: # Green
        # Green to be changed to pending after the pedestrian comes
```

```
    if 60 > duration - change_of_signal >= 0 and pedestrian_present and pedestrian_time  
    <= duration:
```

```
        # changing to pending
```

```
        signal = 3
```

```
        pedestrian_present = False
```

```
        print("The light is now pending")
```

```
    # Green to be changed to yellow after 60 seconds
```

```
    elif duration - change_of_signal >= 60 and pedestrian_present and pedestrian_time  
    <= duration:
```

```
        # changing to yellow
```

```
        signal = 4
```

```
        pedestrian_present = False
```

```
        change_of_signal = duration
```

```
        print("The light is now yellow")
```

```
    else:
```

```
        print(f"At {duration} seconds, the light is green")
```

```
elif signal == 3: # Pending
```

```
    if duration - change_of_signal >= 60:
```

```
        # changing to yellow
```

```
        signal = 4
```

```
        change_of_signal = duration
```

```
        print("The light is now yellow")
```

```
    else:
```

```
        print(f"At {duration} seconds, the light is pending")
```

```
elif signal == 4: # Yellow
```

```
    # yellow to be changed after 5 seconds
```

```
    if duration - change_of_signal >= 5:
```

```
        # changing to red
```

```
        signal = 1
```

```
    change_of_signal = duration
    print("The light is now red")
else:
    print(f"At {duration} seconds, the light is yellow")
duration += 1
```

```
37 second(s) The light is red now
38 second(s) The light is red now
39 second(s) The light is red now
40 second(s) The light is red now
41 second(s) The light is red now
42 second(s) The light is red now
43 second(s) The light is red now
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56 second(s) The light is red now
57 second(s) The light is red now
58 second(s) The light is red now
59 second(s) The light is red now
The light is converted to green
60 second(s) The light is green now
61 second(s) The light is green now
62 second(s) The light is green now
63 second(s) The light is green now
64 second(s) The light is green now
65 second(s) The light is green now
66 second(s) The light is green now
67 second(s) The light is green now
68 second(s) The light is green now
69 second(s) The light is green now
```

```
1 second(s) The light is red now
2 second(s) The light is red now
3 second(s) The light is red now
4 second(s) The light is red now
5 second(s) The light is red now
6 second(s) The light is red now
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34 second(s) The light is red now
35 second(s) The light is red now
36 second(s) The light is red now
```