ICT159

Week 4 | Weekly Assignment | Exercises 7 (5, 6 & 7)

# Algorithm

1. int overSpeed, speed, typeCheck
2. string fine
3. typeCheck ←input(“Enter your speed: ”, speed)
4. If speed <0 OR typeCheck == 0 :
   1. print(“Input valid positive number”)
5. Else If speed <= 60:
   1. print(“Not Speeding”)
6. Else if speed > 60:
   1. overSpeed ← speed - 60
   2. If overSpeed is <= 5:
      1. fine ← “Warning”
   3. Else If overSpeed > 5 AND <= 10:
      1. fine ← “80$”
   4. Else If overSpeed > 10 AND <= 20:
      1. fine ← “150$”
   5. Else:
      1. fine ← “500$”
   6. print(“Speeding & Penalty Status: ” + fine)

**[Flowchart on next page]**

# Flowchart

# 

# Testing

| **Test #** | **Text Description** | **Inputs** | **Expected Outputs** | **Algorithm Outputs** | **Program Success/Failure** |
| --- | --- | --- | --- | --- | --- |
| 1 | Not speeding but very  close. | 60 | “Not Speeding” | “Not Speeding” | Success |
| 2 | Speeding but only just  (a warning). | 61 | “Speeding & Penalty Status: Warning” | “Speeding & Penalty Status: Warning” | Success |
| 3 | Still speeding, but only  just (a warning). | 62 | “Speeding & Penalty Status: Warning” | “Speeding & Penalty Status: Warning” | Success |
| 4 | $80 fine, but only just. | 66 | “Speeding & Penalty Status: $80” | “Speeding & Penalty Status: $80” | Success |
| 5 | Still an $80 fine, but  only just. | 67 | “Speeding & Penalty Status: $80” | “Speeding & Penalty Status: $80” | Success |
| 6 | $150 fine, but only just | 71 | “Speeding & Penalty Status: $150” | “Speeding & Penalty Status: $150” | Success |
| 7 | Still a $150 fine but  only just. | 72 | “Speeding & Penalty Status: $150” | “Speeding & Penalty Status: $150” | Success |
| 8 | $500 fine, but only just | 81 | “Speeding & Penalty Status: $500” | “Speeding & Penalty Status: $500” | Success |
| 9 | Null input | NULL | “Input valid positive number” | “Input valid positive number” | Success |
| 10 | Zero Input | “” | “Input valid positive number” | “Input valid positive number” | Failure |
| 11 | Negative speed (this  has no meaning, but  needs testing) | -50 | “Input valid positive number” | “Input valid positive number” | Success |
| 12 | Invalid input | “Haas” | “Input valid positive number” | “Input valid positive number” | Success |