Prac 02 Design

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**Problem Description**

Option A:

Ask the user to input the current temperature. Use the following table to output an appropriate message to the user, depending on the temperature:

Option B

Ask the user to input firstly the distance they travelled (km) and the time it took for them to travel the distance (minutes). Calculate the average speed (km/h). If the speed is faster than 60km/h then output “Too fast” else output “The speed is valid for normal roads.”

**Input and Output**

Option A

|  |  |
| --- | --- |
| Input | |
| Temperature | Standard input stream |
| Output | |
| Message based on temperature: | Standard output stream |

Option B

|  |  |
| --- | --- |
| Input |  |
| Distance | Standard input stream |
| Time | Standard input stream |
| Output | |
| Message Based on Speed | Standard output stream |

**Data Format**

|  |  |  |
| --- | --- | --- |
| Identifier | Data type | Description |
| chOption | Char | Select Character A or B for Option |
| IntTemp | Integer | Current Temperature |
| IntDistance | Integer | Distance user reach |
| IntTime | integer | Time spent to reach destination |
| DblTime\_inHours | double | Conversion from minutes to hours |
| dblSpeed | double | Average speed of user |
|  |  |  |
|  |  |  |

**Pseudo Code**

ChOption 🡨 User Enter A or B

Case A

Temp 🡨 Capture temperature

If (IntTemp < -273)

Display 🡪 “Invalid temperature value”

If (IntTemp >= -273 and < 0)

Display 🡪 “Stay indoors! You may freeze.”

If (intTemp >= 0 and < 12)

Display 🡪 “Nice and cold. Wear a jacket”

If (intTemp >= 12 and < 20)

Display 🡪 Cool and comfortable.

If (intTemp >= 20)

Display 🡪 “Getting Warmer. Wear Sunscreen”

Case B

intDistance 🡨 Capture distance

intTime 🡨 Capture time

dblTime\_inHours 🡨 intTime/ 60

dblSpeed 🡨 intDistance / intTime

if dblSpeed > 60

Display 🡪 Too Fast

Else

Display 🡪 the speed is valid for normal roads.