Presidential Initiative for Artificial Intelligence and Computing (PIAIC)

PIAIC Batch 6-34 IoT

https://www.piaic.org

Internet of Things (IoT) Specialist Program

Quarter I: Rust Programming

Assignment # 6

Submission Deadline 2 PM June 23, (You can submit late upto June 27)

To understand this presentation guidelines, kindly watch this video
https://web.facebook.com/imran82ali/videos/286728352464574/?t=5380

Write a Rust program for Snake and Ladder Game (**Moksha Patam**), with the following instruction.

1. Program will ask how many players want to play the Game.
2. Program will ask the name of each player that will be saved to some extent.
3. Dice will be rolled for each player and the score of each dice roll of the player and total sum will be printed on the console like this.
4. Program will display turn score and cumulative score for each turn and wait for the user to press enter to continue.

```
Turn 1 Dice Roll of Player 1 - imran is 3 and Total 3
Turn 1 Dice Roll of Player 2 - rehan is 1 and Total 1
Turn 1 Dice Roll of Player 3 - zubair is 2 and Total 2
Turn 1 Dice Roll of Player 4 - abrar is 10 and Total 10

Turn 2 Dice Roll of Player 1 - imran is 4 and Total 7
Turn 2 Dice Roll of Player 2 - rehan is 2 and Total 3
Turn 2 Dice Roll of Player 3 - zubair is 11 and Total 13
Turn 2 Dice Roll of Player 4 - abrar is 8 and Total 18

Turn 3 Dice Roll of Player 1 - imran is 3 and Total 10
Turn 3 Dice Roll of Player 2 - rehan is 2 and Total 5
Turn 3 Dice Roll of Player 3 - zubair is 2 and Total 15
Turn 3 Dice Roll of Player 4 - abrar is 3 and Total 21
```

5. If someone gets a six, he will be given 2nd chance to roll again the dice, If again six in 2nd chance, he will again be given 3rd chance to roll again the dice, If again six in 3rd chance, he will get 0 score otherwise the total of all rolls.

```
Turn 2 Dice Roll of Player 4 - abrar is 8 and Total 18
```

6. Another point, suppose Player IMRAN score is 25 and Player Zubair score is 20 and on next turn Player Zubair gets a score of 5 (total will be 25) then the Score of Player IMRAN will be set to 0. Like the following example.

```
Turn 5 Dice Roll of Player 2 - rehan is 4 and Total 13
Turn 5 Dice Roll of Player 3 - zubair is 1 and Total 20
Turn 5 Dice Roll of Player 4 - abrar is 4 and Total 30

Turn 6 Dice Roll of Player 1 - imran is 7 and Total 25
Turn 6 Dice Roll of Player 2 - rehan is 5 and Total 18
Turn 6 Dice Roll of Player 3 - zubair is 5 and Total 25

Alas! imran has kicked by zubair at score of  25

Turn 6 Dice Roll of Player 4 - abrar is 3 and Total 33

Turn 7 Dice Roll of Player 1 - imran is 3 and Total 3
Turn 7 Dice Roll of Player 2 - rehan is 1 and Total 19
Turn 7 Dice Roll of Player 3 - zubair is 7 and Total 32
Turn 7 Dice Roll of Player 4 - abrar is 4 and Total 37
```

7. Each turn score of each player will be saved at some extent, like at turn16 player IMRAN get a dice roll 3 and player ZUBAIR get a dice roll 5 and Total score of player IMRAN is 15 and player ZUBAIR score is 60,

Player	Total
IMRAN	15
ZUBAIR	60
IMRAN16	3
ZUBAIR16	5

8. One more point, suppose player Abrar score is 99 and he gets 9 on his dice roll, then 0 will be added to his total.

```
Turn 34 Dice Roll of Player 1 - imran is 9 and Total 96
Turn 34 Dice Roll of Player 2 - rehan is 7 and Total 99
Turn 34 Dice Roll of Player 3 - zubair is 4 and Total 92
Turn 34 Dice Roll of Player 4 - abrar is 1 and Total 99

Alas! rehan has kicked by abrar at score of  99


Turn 35 Dice Roll of Player 1 - imran is 2 and Total 98
Turn 35 Dice Roll of Player 2 - rehan is 2 and Total 2
Turn 35 Dice Roll of Player 3 - zubair is 2 and Total 94
Turn 35 Dice Roll of Player 4 - abrar is 9 and Total 99
```

9. Whoever completes 100, will win the Game.

```
Turn 34 Dice Roll of Player 1 - imran is 9 and Total 96
Turn 34 Dice Roll of Player 2 - rehan is 7 and Total 99
Turn 34 Dice Roll of Player 3 - zubair is 4 and Total 92
Turn 34 Dice Roll of Player 4 - abrar is 1 and Total 99

Alas! rehan has kicked by abrar at score of  99


Turn 35 Dice Roll of Player 1 - imran is 2 and Total 98
Turn 35 Dice Roll of Player 2 - rehan is 2 and Total 2
Turn 35 Dice Roll of Player 3 - zubair is 2 and Total 94
Turn 35 Dice Roll of Player 4 - abrar is 9 and Total 99

Turn 36 Dice Roll of Player 1 - imran is 2 and Total 100


Congratulations!  Player imran has won on turn 36
```

Note:

- Your program should be dynamic, it can be played with as many players as the user wants, it **should not** accept text at the time of **number of player** entry.
- If you want you can use only One Vector.
- If you want you can use only one HashMAP.
- Use meaningful names while declaring variables and functions. Avoid 'a', 'b', 'x', 'y', etc..

Please click here to submit your assignment
(or paste this link in your browser https://forms.gle/aN1EtCGXyfPLYpVVA)