

**Lab 08**  
**PF – BSDS**

**Note 1:** Kindly do your work, talking, sharing, and discussing is considered cheating (in any case) and strictly discouraged); therefore, be careful. TAs will be there for your help. Wait for TA if you have any queries.

**Note 2:** It is preferred to use nested loop; however, you may do the lab using single while loop. However, you should do the practice of while loop to be ready for quiz in next class.

**Task 1:** A file contains runs of players in the PSL series. First line of the file contains number of players. Next lines have runs of each player; however, different players have played different number of matches. Therefore, first line of each player's record has number of matches. Read and print number of players. Next read and print each player's runs from file. Calculate and print each player's average runs. Lastly, print which player has best average. Similarly, find the highest runs by each player and overall highest runs. See sample run carefully. Start your task by formal paper work (Again, do paper work neatly, so that we can read it).

**Sample Run:**

**Number of players: 5**

**Player 1: 23 37 48      Average: 36      Max: 48**

**Player 2: 45 39      Average: 42      Max: 45**

**...**

**Player 3 has best average**

**The highest runs are 63**

**Task 2:** Print following patterns, each in different programs:  
(For each pattern take input from user and generate pattern according to the input value). You may attempt these patterns in any order but try to keep file name relevant to each part.

**a.**

**Rows: 5**

**A B C D**

**E F G H**

**I J K L**

**M N O P**

**Q R S T**

**b.**

**Rows: 3**

**Columns: 6**

**\* \* \* \* \***

**\* \* \* \* \***

**\* \* \* \* \***

**c.**

**Rows: 4**

**\***

**\* \***

**\* \* \***

**\* \* \* \***

**d.**

**Rows: 3**

**Columns: 6**

**\* \* \* \* \* >**

**\* \* \* \* \* >**

**\* \* \* \* \* >**

**e.** The description in front of two lines is for guidance only (it is not part of the output)

**Rows: 4**

**1 2 3 4 5 = 15**

**1 2 3 4 5 6 = 21**

**1 2 3 4 5 6 7 = 28**

**1 2 3 4 5 6 7 8 = 36**

**15 is sum of integers one to five**

**21 is sum of integers one to six**

5	Number of players
3	Three matches by player 1
23	Player 1 runs in match 1
37	Player 1 runs in match 2
48	Player 1 runs in match 3
2	Two matches by player 2
45	Player 2 runs in match 1
39	Player 2 runs in match 2
...	