Trainiton ANALYTICS

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Interns' Programming Task

This is a task where you will demonstrate your ability to:

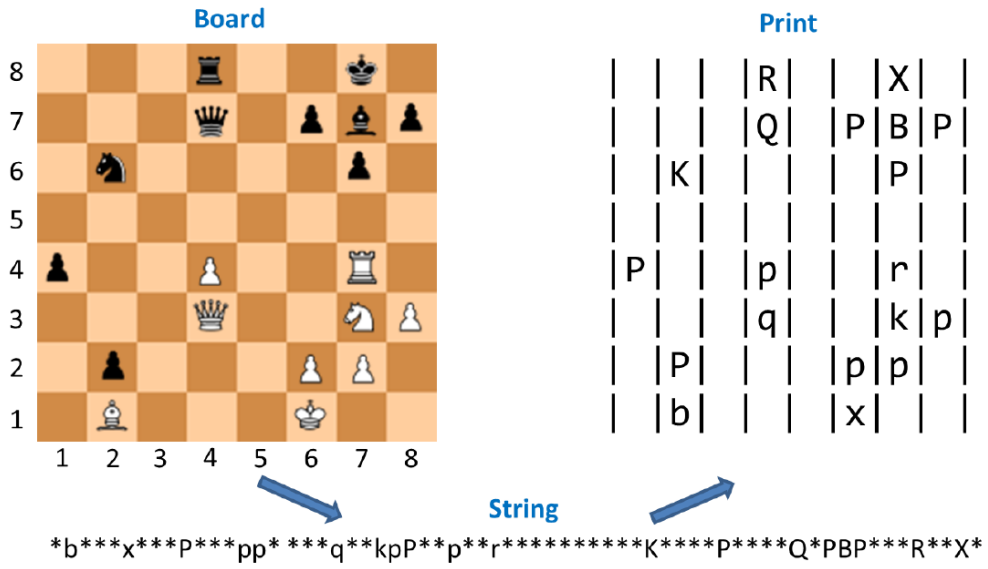
- Comprehend and solve problems
- Create and call functions
- Use conditionals and Boolean expressions
- Understand use of libraries and modules.

The task for today is related to chess. You do not need an in-depth knowledge of chess to solve this problem. It is however useful for you to be acquainted with some basic knowledge in chess like names of pieces, how they move, what a promotion is, what a check is. All that information can be obtained from Wikipedia. You can use the link: https://en.wikipedia.org/wiki/chess.

Problem:

1. For the first problem, you are to create a function (`print_position`) that prints positions of the pieces on the chess board. This procedure actually receives as an input a string with the encoding of the positions and print the positions in a board-like manner. This will be considered as the string representation of the positions. Each piece on the board should be represented by a character and this should be stated in the code. The chess board has 64 cells arranged in an 8 x 8 manner i.e. 8 rows and 8 columns Your function should print each row in a separate line, the empty cells should be printed with an empty space and a vertical bar character (**|**) should be printed at the beginning and at the end of each row and in between each 'square character'. Squares containing a piece must be printed using the same character used to encode that piece.

The figure below shows an example of positions, the string representation and how it should be printed.



Your program for solving this problem must get a position from a function you would create: the `random_position` function, print the corresponding string representation and then use the `print_position` function to provide the board representation of the positions. The figure below shows an example of the problem's solution.

```
The string encoding of the position is:
rk***x*r*P**p********k*p*******p***K*b**P***P***P**P**********XK*

The pretty print is:
| | | | | |X|K| |
|P| | |P| | | | |
|P| | | |P| | | |
| | | |K| |b| | |
| | | | | | | |p|
| | | | | |k| |p|
| |P| | |p| | | |
|r|k| | | |x| |r|
```

--You may use the random integer function to help place the pieces in your string representation—

2. The second problem is to create a function that checks if the white king is in check. The function for this purpose should be named `white check`. This function will take the positions you created as argument and return true if the white king is in check and false otherwise. Writing this function might be challenging and there are different cases to take into consideration. Consider the situations where the check may be given by a pawn, knight, bishop, rook or queen. Also, consider the pieces that may be in between the king and the attacking piece which may block a possible check.

If you have any questions, please feel free to ask.

Goodluck Guys!

Submission date: 16th November, 2020.