ASSESSMENT FOR: PES SOFTWARE ENGINEER

Dear selected candidates, you are required to complete task as below, following these instructions:
- *This assessment contains three questions. Choose any **two** out of the three to answer.*
- *Candidates are not allowed to use AI tools such as ChatGPT.*
- *Candidates may refer to Google for reference.*

QUESTION 1
You need to design a function that processes a list of integers. The function should return a list based on specific criteria derived from the input.

> INPUT_1 = [1, 4, 5, 2, 9, 8, 8, 6]
> OUTPUT_1 = [2, 4, 6, 8]
>
> INPUT_2 = [9, 6, 6, 4, 3, 2]
> OUTPUT_2 = [2, 4, 6]

Implement a function your function (input list) that takes a list of integers as input and returns a list of integers that meets the expected criteria.

QUESTION 2
The following board is used to create a simple floor pattern in a game. Each cell is described by a letter and a number ("X" for black squares and "-" for white squares).

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  A B C D E
1 - X - X -
2 X - X - X
3 - X - X -
4 X - X - X
```

Design your program to detect black/white from the provide letter and number

> Example:
> Enter a letter ('A ' to 'Z '): B
> Enter a number (1 to 4): 4
> The background color is White

QUESTION 3
You are tasked with designing a function that calculates the sum of all odd numbers within a specified range.
The function should take two integers as input: start and end, where start is the starting number (inclusive) and end is the ending number (inclusive).
The function should return the sum of all odd numbers between start and end, inclusive.

> Example:
> Given the range [1, 10], the odd numbers are [1, 3, 5, 7, 9].
> The sum of these odd numbers is $1 + 3 + 5 + 7 + 9 = 25$.

Implement a function sum of odds (start, end) that calculates and returns the sum of all odd numbers within the specified range [start, end].