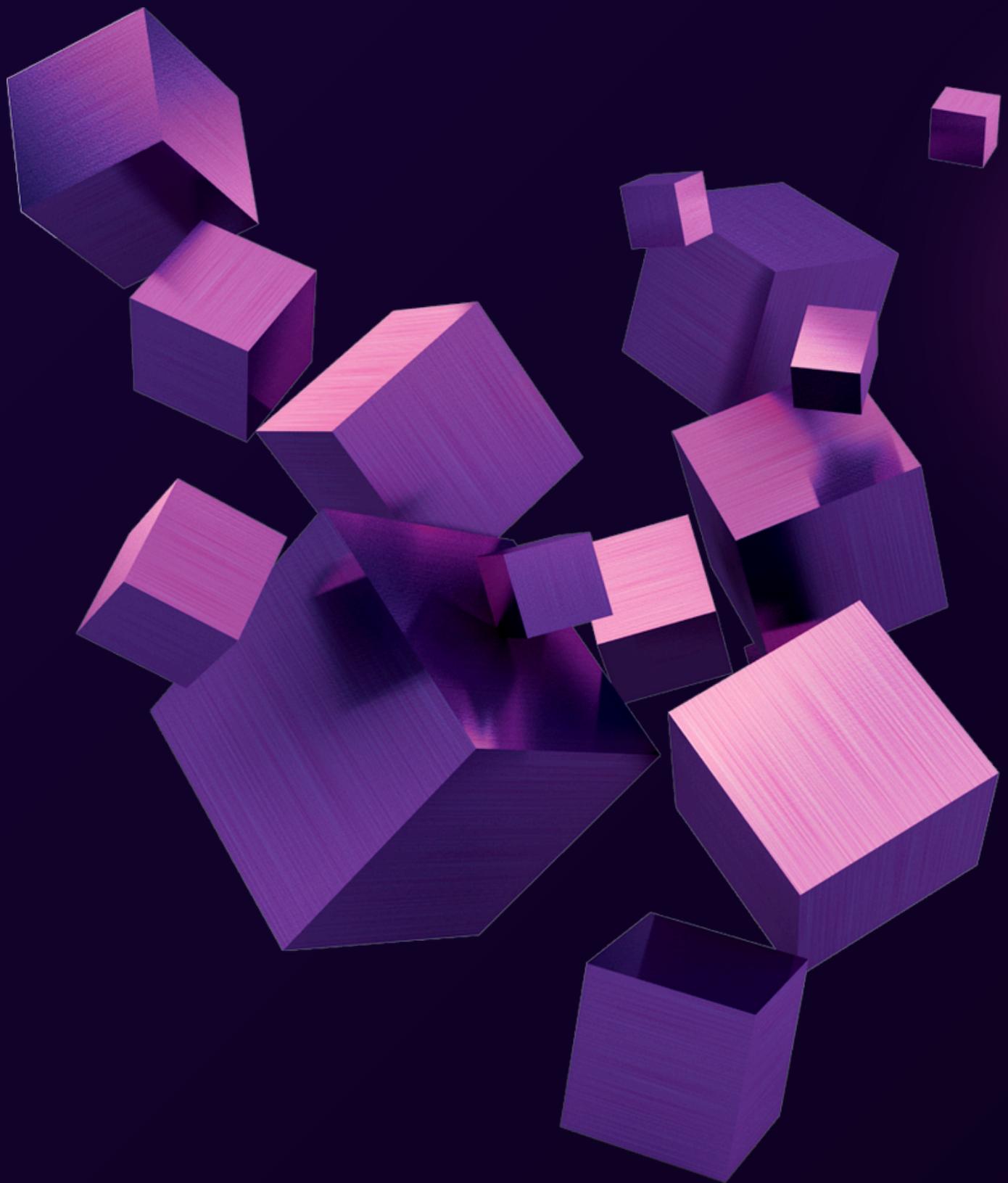


# SCRABBLE GAME





## OBJETIVE:

- The user receives 13 random letters.
- Make a word with them.
- It is right if the word is possible and if it exists in a dictionary.
- The word score is calculated based on the value of each letter

Here we define all the possible letters and the program selects 13 random letters and stores them in the empty list which is letters\_13

```
1  def random_13_letters():
2      import random
3      alphabet = ["A", "A", "A", "A", "A", "A", "A", "A", "A",
4                  "B", "B",
5                  "C", "C",
6                  "D", "D", "D", "D",
7                  "E", "E",
8                  "F", "F",
9                  "G", "G", "G",
10                 "H", "H",
11                 "I", "I", "I", "I", "I", "I", "I", "I", "I",
12                 "J",
13                 "K",
14                 "L", "L", "L", "L",
15                 "M", "M",
16                 "N", "N", "N", "N", "N", "N",
17                 "O", "O", "O", "O", "O", "O", "O", "O",
18                 "P", "P",
19                 "Q",
20                 "R", "R", "R", "R", "R", "R",
21                 "S", "S", "S", "S",
22                 "T", "T", "T", "T", "T", "T", "T",
23                 "U", "U", "U", "U",
24                 "V", "V",
25                 "W", "W",
26                 "X",
27                 "Y", "Y",
28                 "Z"]
29     letters_13 = []
```

```
for i in range(0,13):
    i = random.choice(alphabet)
    letters_13.append(i)

return " ".join(letters_13), letters_13
```

This repeats it 13 times, 13 letters.  
It selects a random letter from the alphabet.  
All this letters are saved in the letters\_13 list  
It turns the list of letters into a single string, with spaces between each letter

```
▼ def score(word):
    score_chart = {
        1: ["A", "E", "I", "O", "U", "L", "N", "R", "S", "T"],
        2: ["D", "G"],
        3: ["B", "C", "M", "P"],
        4: ["F", "H", "V", "W", "Y"],
        5: ["K"],
        8: ["J", "X"],
        10: ["Q", "Z"]
    }
    score = 0
    for i in word:
        for point, letters in score_chart.items():
            if i in letters:
                score += point
    return score
```

Here we created a dictionary with the points of each letter. Starting with a score of 0 points.

The loop goes through every single letter in the players word. For each letter in the word:

It checks how many points that letter is worth. Then it adds those points to the total score.

Finally, when all the letters are checked, the function gives back the total score of the word



It prints the 13 random letters.

It asks the user to type a word using those random letters, converting all in uppercase.

We open the wrong\_characters list, which is empty to add the wrong characters the user used.

If the word is valid (uses only correct letters)

For each letter in the word

If it is in the list\_letters, it removes that letter

If it's not on the list, it adds to the wrong\_characters list and marks the word as invalid

If the word has letters that are not in the list it shows the wrong characters and skips the rest of the loop and starts again.

If the word is valid

It opens the file called words.txt that contains a list of real words

The program reads all the words from the file. It changes all the words to lowercase (so they're easier to compare). It puts the words into a set, which is like a special list that makes checking fast.

```
while True:  
    letters, list_letters = random_13_letters()  
    print(letters)  
    word = input("type your word: ").upper()  
    wrong_characters = []  
  
    valid = True  
    for i in word:  
        if i in list_letters:  
            list_letters.remove(i)  
        else:  
            wrong_characters.append(i)  
            valid = False  
  
    if not valid:  
        print(f"Invalid input you do not have: {wrong_characters}")  
        continue  
  
    with open("words.txt", "r") as file:  
        words = {word.lower() for word in file.read().splitlines()}
```

```
if word.lower() not in words:  
    print("Not a valid word")  
    continue  
  
if word.lower() in words:  
    print(f"your score is {score(word)}")
```

If the word is not found it prints NOT A VALID WORD. It skips the rest and starts again.

If the word is in the list of real words,it will print the score

