



**UNIVERSIDAD NACIONAL AUTÓNOMA DE
MÉXICO**

FACULTAD DE ESTUDIOS SUPERIORES ARAGÓN

INGENIERÍA EN COMPUTACIÓN

Estructura de Datos

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Grupo: 1360

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```
File Edit Selection View Go Run Terminal Help
Pila.py x Recursividad1.py M Recursividad2.py M
Tarea_11 > Pila.py > ...
1 class Stack():
2     def __init__(self):
3         self.data = []
4
5     def is_empty(self):
6         return self.length() == 0
7
8     def length(self):
9         return len(self.data)
10
11    def pop(self):
12        return self.data.pop()
13
14    def peek(self):
15        return self.data[-1]
16
17    def push(self, value):
18        self.data.append(value)
19
20    def __str__(self):
21        info = "\n-----\n"
22        for elem in self.data[-1::-1]:
23            info += f"{elem}\n---\n"
24        return info
25
```

Ln 25, Col 1 Spaces: 4 UTF-8 CRLF Python 3.12.3 Prettier

```
File Edit Selection View Go Run Terminal Help
Pila.py Recursividad1.py M Recursividad2.py M
Tarea_11 > Recursividad1.py > ...
1 from Pila import Stack
2
3
4 def quitar_medio(stack, actual, medio):
5     if actual == medio:
6         return stack.pop()
7     top = stack.pop()
8     valor_medio = quitar_medio(stack, actual + 1, medio)
9     stack.push(top)
10    return valor_medio
11
12
13 def obtener_medio(stack):
14     if stack.is_empty():
15         return None
16
17     indice_medio = stack.length() // 2
18     return quitar_medio(stack, 0, indice_medio)
19
20
21 def main():
22     stack = Stack()
23
24     for i in range(1, 10):
25         stack.push(i)
26     print("Pila inicial:", stack)
27     valor_medio = obtener_medio(stack)
28     print("Valor medio:", valor_medio)
29     print("Pila después de quitar el valor medio:", stack)
30
31
32 if __name__ == "__main__":
33     main()
34
```

Ln 20, Col 1 Spaces: 4 UTF-8 CRLF Python 3.12.3 Prettier

```
File Edit Selection View Go Run Terminal Help
EOD_2025

Pila.py Recursividad1.py M X Recursividad2.py M
Tarea_11 > Recursividad1.py > obtener_medio
from Pila import Stack

PS C:\Users\luisa\OneDrive\Escritorio\EOD_2025> & C:\Users\luisa\AppData\Local\Programs\Python\Python312\python.exe c:\Users\luisa\OneDrive\Escritorio\EOD_2025\Tarea_11\Recursividad1.py
Pila inicial:
-----
9
-----
8
-----
7
-----
6
-----
5
-----
4
-----
3
-----
2
-----
1
-----

Valor medio: 5
Pila después de quitar el valor medio:
-----
9
-----
8
-----
7
-----
6
-----
4
-----
3
-----
2
-----
1
-----

PS C:\Users\luisa\OneDrive\Escritorio\EOD_2025>
```

```
File Edit Selection View Go Run Terminal Help
EOD_2025

Pila.py Recursividad1.py M Recursividad2.py M X
Tarea_11 > Recursividad2.py > ...
1 def potenciacion(a, b):
2     if b == 0:
3         return 1
4     elif b < 0:
5         return 1 / potenciacion(a, -b)
6     else:
7         return a * potenciacion(a, b - 1)
8
9
10 print(potenciacion(10, 0))
11 print(potenciacion(5, 5))
12 print(potenciacion(2, -1))
13
```

The image shows a Visual Studio Code editor window with a dark theme. The top menu bar includes File, Edit, Selection, View, Go, Run, Terminal, and Help. The Explorer sidebar on the left shows a file named Recursividad2.py. The main editor area displays the following code:

```
1  
PS C:\Users\luisa\OneDrive\Escritorio\EDD_2025> & C:/Users/luisa/AppData/Local/Programs/Python/Python312/python.exe c:/Users/luisa/OneDrive/Escritorio/EDD_2025/Tarea_11/Recursividad2.py  
PS C:\Users\luisa\OneDrive\Escritorio\EDD_2025> & C:/Users/luisa/AppData/Local/Programs/Python/Python312/python.exe c:/Users/luisa/OneDrive/Escritorio/EDD_2025/Tarea_11/Recursividad2.py  
1  
3125  
0.5  
PS C:\Users\luisa\OneDrive\Escritorio\EDD_2025>
```

The bottom status bar indicates the current line and column (Ln 13, Col 1 (234 selected)), the number of spaces (Spaces: 4), the encoding (UTF-8), the line ending (CRLF), the language (Python), the version (3.12.3), and the formatter (Prettier).