Aplicando

October 13, 2023

1 Recursão

1.1 Aplicando conhecimento

Faça um código que gere o Triângulo de Pascal recursivo.

[2]:
```
def generate_pascal_triangle(n):
    if n == 1:
        return [[1]]
    else:
        previous_triangle = generate_pascal_triangle(n - 1)
        last_row = previous_triangle[-1]
        new_row = [1]
        for i in range(1, len(last_row)):
            new_row.append(last_row[i - 1] + last_row[i])
        new_row.append(1)
        previous_triangle.append(new_row)
        return previous_triangle


def print_pascal_triangle(triangle):
    max_width = len(' '.join(map(str, triangle[-1])))
    for row in triangle:
        print(' '.join(map(str, row)).center(max_width))


n = 10
pascal_triangle = generate_pascal_triangle(n)
print_pascal_triangle(pascal_triangle)
```

```
             1
           1 1
          1 2 1
         1 3 3 1
        1 4 6 4 1
      1 5 10 10 5 1
     1 6 15 20 15 6 1
   1 7 21 35 35 21 7 1
  1 8 28 56 70 56 28 8 1
```

```
1 9 36 84 126 126 84 36 9 1
```