

## Python Cheat Sheet

### Python Cheat Sheet: Array and String Manipulation + I/O

#### 1. Input and Output

-----

# Integer input

```
x = int(input())
```

# String input

```
s = input()
```

# List input

```
arr = list(map(int, input().split()))
```

# Output

```
print("Hello")
```

```
print("Number:", 5)
```

```
print(f"Number: {5}")
```

#### 2. Lists (Arrays)

-----

```
arr = [1, 2, 3, 4, 5]
```

# Access & Traversal

```
for i in range(len(arr)):
```

```
    print(arr[i])
```

```
for val in arr:
```

```
    print(val)
```

# Sorting and Searching

```
arr.sort()                # Ascending
```

```
arr.reverse()          # Descending
index = arr.index(3)    # Find element
```

### 3. 2D Lists

-----

```
matrix = [[0]*3 for _ in range(3)]

# Input
for i in range(3):
    for j in range(3):
        matrix[i][j] = int(input())
```

```
# Output
for row in matrix:
    print(*row)
```

### 4. Strings

-----

```
s = "Hello World"
length = len(s)
char = s[0]
substring = s[1:4]
```

```
# Concatenation
s3 = s + " Again"
```

```
# Split and Join
words = s.split()
joined = " ".join(words)
```

```
# Case Conversion
s.lower(), s.upper(), s.capitalize()
```

```
# Comparison

s == "Hello"

s.startswith("He")

s.endswith("ld")
```

## 5. Utilities

```
-----

int("123")          # Convert to int

str(123)             # Convert to str

list("hello")        # ['h', 'e', 'l', 'l', 'o']

ord('a')             # 97

chr(97)              # 'a'
```