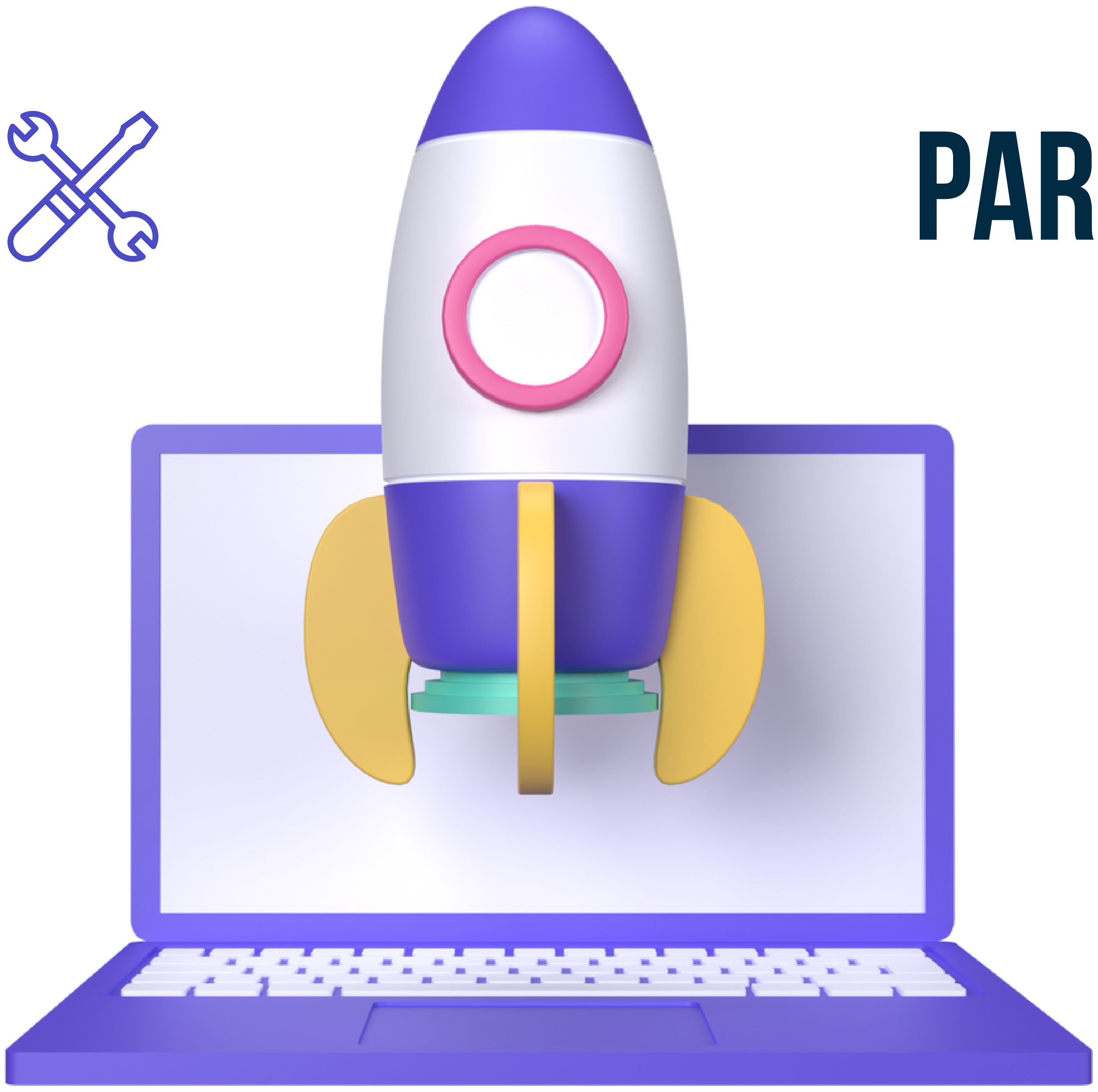
TS

PART 2



TYPESCRIPT UTILITIES

YOU SHOULD KNOW

SWIPE

Required

The opposite to Partial is Required utility type, which makes everything required

```
interface Person {
 name?: string | undefined;
 age?: number | undefined;
 email?: string | undefined;
}

type RequiredPerson = Required<Person>;

//RequiredPerson will be same as:
interface Person {
 name: string;
 age: number;
 email: string;
 }
```

Exclude

Exclude utility type allows you to create a new type by removing members of an union

```
type NumberOrString = number | string;
type OnlyNumber =
Exclude<NumberOrString, string>;

// same as:
// type OnlyNumber = number;

const num: OnlyNumber = 5;
const str: OnlyNumber = 'hello';
```

Error: Type '"hello"' is not assignable to type 'number'.

You can even exlude mulitple members of an union:

```
type NumberStringOrBoolean = number |
string | boolean;
type OnlyBoolean =
Exclude<NumberStringOrBoolean, string |
number>;

// same as:
type OnlyBoolean = boolean;
```

Extract

The opposite to Exclude is Extract utitlity type that allows you to pick a or multiple members from an union

```
type NumberOrString = number | string |
boolean;
type OnlyNumber = Extract<NumberOrString,
number>;

// same as:
type OnlyNumber = number;
```

Parameters

The Parameters utility type lets you extract the type of parameters from a function.

```
function add(a: number, b: string, c:boolean): string {
  return a + b;
}

type AddReturnType = Parameters<typeof add>;

// type AddReturnType = [a: number, b: string,
c:boolean];
```

Awaited

Awaited utility type allows you to extract the resolved type of a promise or other type that uses await.

```
type promiseNumber = Promise<number>


type justNumber = Awaited<Promise<number>>
// type justNumber = number
```

Awaited and ReturnType combined

Here’s an example of using ReturnType and Awaited together:

```
async function fetchData(): Promise<string> {
  // fetch data from API and return a string
}

type ResolvedResult = Awaited<ReturnType<typeof
fetchData>>;
// type ResolvedResult = string
```

In this example, we define an async function that returns a Promise of a string (Promise<string>). We then use ReturnType to extract the return type of fetchData and pass it as an argument to Awaited to unwrap the promised's resolved type.

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