Kotlin Intermediate Cheat Sheet

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Functions

In korlin function is declared using the key word fun

```
Fun sum(){
println("Hello World!")
}// it prints hello world!
```

Arguments / Parameters

Arguments are passed to the function when it is invoked in the main function

```
Fun helloName(name:String)
{
println("Hello $name")
}// if Safa passed as name
the output will be .. Hello Safa
```

We have to declare the data types that are being passed into the function. We can provide a default value for a parameter

```
Fun helloName(name: String = "Safa")
{
println("Hello $name")
}
```

Returning Values

Function also can have a return values

```
Fun sum(num1:Int, num2:Int): Int
    { return num1+num2
}// it return an Integer type which is the
sum of num1 + num2
```

Functions Usage

Standard approach of invoking functions is used in the main function.

```
Val result= sum(2,4)
```

Functions Scope

Function can be declared at the top level of the file or it can be declared locally inside a function.

Lists and Arrays

Lists and arrays are a collection of data with fixed size

```
val nameList = listOf("Badr", "Abdullah",
"Safa")
val nameArray = arrayOf("Badr",
"Abdullah", "Safa")
```

Arrays are **mutable (read & write)**, which means we can make changes to its content.

ArrayLists

ArrayList is a collection of data with no fixed size (dynamic array). It is mutable and provides the ability to make changes like adding and removing items from the list.

```
val subjects = ArrayList()

subjects.add("Math")
subjects.add("Science")
subjects.remove("Math")
```

Lists are **immutable (read only)**, that means we can not make changes to its content once created.
One list or array can hold different types of data

```
val nameList = listOf<any>("Badr", 8, true)
val nameArray = arrayOf<any>("Abdullah", 2, true)
```

To change a specific value in the array `nameArray[0]="Safa"`

And this can not be done for the list since it is immutable and it would cause an error.

`<any>` is used when having different data type

`nameArray.size`

`Number.sort`

Dot notation is used to call built in methods

2D ArrayLists

Is a list within another list.
For example giving this 2D array of stings

Saudi Arabia	Riyadh
UAE	Abu Dhabi
Canada	Ottawa

```
capitals = arrayListOf<ArrayList<String>>()
capitals.add(arrayListOf("Saudi Arabia", "Riyadh")))

capitals.add(arrayListOf("UAE", "Abu Dhabi")))

capitals.add(arrayListOf("Canada", "Ottawa")))
```