Batch #16 / Android Class

Remote Learning Assignment - Week 1

Answer **Q1**, **Q2** and **Q3** in any text file. Upload the project includes **Q4**, **Q5**, **Q6** and the text file (**Q1**, **Q2** and **Q3**) to your GitHub and **send a direct message to us that you have completed.**

0. Please apply for a GitHub account and create a repository then upload your homework to the repository. After the process, please send your repository link to us through direct message and we will check your assignments through your repository every week. We need you to structure your repo as below :

```
Repository_name
        -week1
                - [your assignments]
        -week2
                - [your assignments]
        -week3
                - [your assignments]
        -week4
                - [your assignments]
```

1. Try the statements below in REPL. Please answer that there are correct or not and explain the reasons.

a. `val id = 9527`
b. `var number : Int = 5.6`
c. `var title = "Hello Kotlin!"`
d. `val content : String = null`
e. `val number : Double? = 556.6`
f. `var list: List<String>? = listOf(null, null)`
g. `var list: List<String?>? = listOf("Wayne", "Chen")`
h. `list.size`
i. `list?.size`

2. Read the code below, choose the correct answer and explain the reason.

```
var message = "Hello and welcome to AppWorks School :)"
when (message.length) {
   0 -> println("Aye!")
   in 1..39 -> println("Your grace.")
   in 40..56 -> println("My lord.")
   else -> println("You know nothing...")
}
```

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What will the code print?

a. `"Hello and welcome to AppWorks School :)"`
b. `"Aye!"`
c. `"Your grace."`
d. `"My lord."`
e. `"You know nothing..."`

3. Read the code below, choose the correct answer and explain the reason.

```
val array = // Question
val units = arrayOf("byte", "KB", "MB", "GB",
   "TB", "PB")
for ((i, value) in array.withIndex()) {
   println("1 ${units[i]} = ${value.toLong()} bytes\n")
}
```

Output:

```
1 byte = 1 bytes
1 KB = 1000 bytes
1 MB = 1000000 bytes
1 GB = 1000000000 bytes
1 TB = 1000000000000 bytes
1 PB = 1000000000000000 bytes
```

Which answer is the correct way to initialize the array to output.

a. `val array = new Array(6)`
b. `val array = {100}`
c. `val array = Array(6) { 1000.0.pow(10) }`
d. `val array = Array(6) { 1000.0.pow(it) }`

4. Create a new class, **`Human`**, includes:

a. Pass in a mandatory String argument for the **`name`**.
b. Add a method, **`attack()`**, that prints **`"<the name passed in> use Fist Attack!"`**.
c. In the **`main()`** function, create an instance of **`Human`**, and call the **`attack()`** method to print.

5. Create a subclass of **`Human`**; name it **`Mage`**, includes:

a. Pass in a mandatory String argument for the **`name`**, also for the constructor of **`Human`**.
b. Override the **`attack()`** method to print **`"<the name passed in> use Fireball!"`**.
c. In the **`main()`** function, create an instance of **`Mage`**, and call the **`attack()`** method to print.

6. Now you have to add a flag to confirm if the **`Human`** has mana or not, try to implement and print it in the **`main()`** function.