Functions and Pure functions

1) Identify whether the following functions are pure and explain?
   (**Note**: Please try to answer these yourself first before running them in the Scala shell)

   a. def add(x: Int, y: Int): Int = {
   ```
     x + y
   }
   ```

   b. var x = 33
   ```
      def changeStuff: Unit = {
       x = x + 10
      }
   ```

   c. def fullName(firstName: String, lastName: String): String = {
   ```
      s"$firstName $lastName"
   }
   fullName("Scala", "Spark")
   ```

   d. def loco: Unit = {
   ```
      println("toma 4loco!")
   }
   loco
   ```

2) What does the following code snippets print and justify your answer?

   a. def building = {
   ```
      "tall"
   }
   println(building)
   ```

   b. def crazy(number: Int) = {
   ```
      number + 3
   }
   println(crazy("book"))
   ```

   c. def singSong(times: Int): Int = {
   ```
      s"I'm going to sing ${times.toString} times"
   }
   println(singSong(5))
   ```

   d. def fullName(first: String, last: String = "balvin"): String = {
   ```
      s"$first $last"
   }
   println(fullName("j"))
   ```

e.
```scala
def mathFun(x: Int, y: Int = 99): Int = {
  x * y
}
println(mathFun(4, 5))
```

f.
```scala
def theBest(category: String, thing: String): String = {
  s"The best type of $category is $thing"
}
println(theBest(thing = "Squirtle", category = "Pokemon"))
```

3) Create a Scala function that sums up 10 numbers starting from the number passed as parameter and returns the same.

4) Create a function named "getAgeCategory" which classifies the age based on the following rules and returns a category.
   age < 10 - kid
   age between 10 and 20 – teen
   age between 20 and 60 – adult
   age greater than 60 – old age