Chapter 2—**Welcome** App

2.1 Introduction

Q1. Which of the following statements is *false*?
a. Android Studio's layout editor enables you to build GUIs using drag-and-drop techniques.
b. You can edit the GUI's XML directly.
c. In portrait orientation the device's width is greater than its height.
d. Android's Explore by Touch enables users to touch items on the screen and hear TalkBack speak the corresponding descriptive text.
Answer: c. Actually, in portrait orientation the device's height is greater than its width.

Q2. You can _____ an app so that you can provide localized strings in different languages.
a. translate.
b. convert.
c. transcribe.
d. internationalize.
Answer: d. internationalize.

2.2 Technologies Overview

No questions.

2.2.1 Android Studio

No questions.

2.2.2 `LinearLayout`, `TextView` and `ImageView`

Q1. _____ are views that contain and arrange other views.
a. Layouts.
b. `TextView`s.
c. `ImageView`s.
d. None of the above.
Answer: a. Layouts

Q2. Which of the following statements is *false*?
a. You can use a vertical `LinearLayout` to arrange an app's text and image with each occupying half the `LinearLayout`'s vertical space.
b. A `LinearLayout` also can arrange views horizontally.
c. The default GUI created by Android Studio already contains an `ImageView`.

d. You can use the layout editor's Palette of views to drag and drop an `ImageView` onto a GUI, then configure its properties.
Answer: c. The default GUI created by Android Studio already contains an `ImageView`. Actually, the default GUI created by Android Studio already contains a `TextView`.

Q3. Which of the following statements is *true*?
a. Extensible Markup Language (XML) is a natural way to express GUIs.
b. XML is human- and computer-readable text and, in the context of Android, helps you specify the layouts and components to use, as well as their attributes, such as size, position, color, text size, margins and padding.
c.You use XML files to store app resources, such as strings, numbers and colors.
d. All of the above are true.
Answer: d. All of the above are true.

2.2.3 App Resources

Q1. (*True/False*) It's considered good practice to define all strings, numeric values and other values in XML resource- files that are placed in the subfolders of a project's `resources` folder.
Answer: False. Actually, it's the `res` folder.

Q2. (*True/False*) For a `TextView` font color, you should typically create a color resource using a color selected from Google's Material Design color palette.
Answer: True.

2.2.4 Accessibility

Q1. Which of the first three statements below is *false*?
a. Android provides accessibility features to help people with certain disabilities use their devices.
b. People with visual impairments can use Android's TalkBack to allow a device to speak screen text or text that you provide to help them understand the purpose and contents of a view.
c. Android's Explore by Touch enables the user to touch the screen to hear TalkBack speak what's on the screen near the touch.
d. All of the above are true.
Answer. d. All of the above are true.

2.2.5 Internationalization

Q1. Which of the following statements is *true*?
a. To reach the most users with your apps, you should consider customizing them for various locales and spoken languages.
b. Configuring your app so that it can be customized for various locales is known as localization.
c. Customizing your app for a specific locale is known as internationalization.

d. All of the above statements are false.
Answer. a. To reach the most users with your apps, you should consider customizing them for various locales and spoken languages.

2.3 Creating an App

No questions.

2.3.1 Launching Android Studio

No questions.

2.3.2 Creating a New Project

Q1. A _____ is a group of related files, such as code files, resource files and images that make up an app.
a. folder
b. directory
c. solution
d. project
Answer: d. project.

2.3.3 Create New Project Dialog

Q1. Which of the following statements is *false*?
a. The package name normally begins with your company's or institution's Company Domain *in reverse*. This is followed by a dot (`.`) and the app's name in all lowercase letters with any spaces removed.
b. By convention, package names use only lowercase letters.
c. The IDE sets the package name using the text you enter for Company Name and Company Domain.
d. By default, Android Studio places new project folders in the subfolder `AndroidStudioProjects` in your user account directory.
Answer: c. The IDE sets the package name using the text you enter for Company Name and Company Domain. Actually, the IDE sets the package name using the text you enter for Application Name and Company Domain.

2.3.4 Target Android Devices Step

Q1. Which of the following statements is *false*?
a. The Minimum SDK is the minimum Android API level that's required to run your app. This allows your app to execute on devices supporting that API level and higher.
b. Lower Minimum SDK values enable your app to run on more devices.
c. Generally you should target the highest API level on which your app can run.
d. You must disable newer features that are not available on older platforms when your app is installed on those platforms.
Answer: c. Generally you should target the highest API level on which your app can run. Actually, generally you should target the lowest API level on which

your app can run, so your app can run on the largest possible number of devices.

2.3.5 Add an Activity to Mobile Step

Q1. Which type of app template is described by: "Used for a *single-screen app* (similar to Blank Activity) that occupies the entire screen, but can toggle visibility of the device's status bar and the app's app bar."
a. Empty Activity.
b. Fullscreen Activity.
c. Master/Detail Flow.
d. None of the above.
Answer: b. Fullscreen Activity.

2.3.6 Customize the Activity Step

No questions.

2.4 Android Studio Window

No questions.

2.4.1 Project Window

Q1. The _____ window provides access to all of the project's files.
a. Organizer
b. Explorer
c. Project
d. None of the above.
Answer: c. Project

Q2. (True/False) You can have only one project open in the IDE at once.
Answer: False. Actually, you can have many projects open in the IDE at once—each in its own window.

Q3. The _____ folder contains the files you'll edit to create your apps' GUIs and logic.
a. `java`
b. `res`
c. `app`
d. `manifests`
Answer: c. `app`

2.4.2 Editor Windows

Q1. The code editors for Java and XML help you write code quickly and correctly via _____—as you type, you can press *Enter* (or *Return*) to automatically finish a

Java code element or an XML element name, attribute name or value that is currently highlighted in the code-completion window.
a. code-for-me
b. code-completion
c. automated coding
d. None of the above.
Answer: b. code-completion

2.4.3 Component Tree Window

Q1. When the layout editor is open in Design view, the _____ appears at the right side of the IDE. This window shows the layouts and views (GUI components) that comprise the GUI and their parent-child relationships—for example, a layout (the parent) might contain many nested views (the children), including other layouts.
a. Project window
b. Properties window
c. Palette
d. Component Tree
Answer: d. Component Tree

2.4.4 App Resource Files

Q1. Layout files like `activity_main.xml` are app _____ and are stored in sub-folders of the project's `res` folder.
a. code
b. descriptions
c. resources
d. None of the above.
Answer: Actually, it's the res folder.

2.4.5 Layout Editor

No questions.

2.4.6 Default GUI

Q1. With a _____ you can, for example, specify that one view should appear below another and be centered horizontally within this layout.
a. `LinearLayout`
b. `CenteredLayout`
c. `RelativeLayout`
d. None of the above.
Answer: c. `RelativeLayout`

2.4.7 XML for the Default GUI

Q1. In a layout XML file, attribute values that begin with `@`, such as

`@dimen/activity_vertical_margin` are _____ with values defined in other files.
a. resources
b. variables
c. dimentions
d. None of the above.
Answer: a. resources

2.5 Building the App's GUI with the Layout Editor

Q1. Android Studio allows you to build your GUI by dragging and dropping views—such as `Text-Views`, `Image-Views` and `Buttons`—onto the _____.
a. GUI designer
b. layout designer
c. GUI editor
d. layout editor
Answer: d. layout editor

2.5.1 Adding an Image to the Project

Q1. Which of the following statements is *false*?
a. Android devices have various *screen sizes*, *resolutions* and *pixel densities* (that is, dots per inch or DPI), so you typically provide images in various resolutions that the operating system chooses based on a device's pixel density. These are placed in `drawable` folders (in a project's `res` folder) that store images with different pixel densities.
b. Android Studio displays only one `drawable` folder containing the app's `drawable` resources, even if your project contains resources for multiple densities.
c. If Android cannot find an image in the `drawable` folder that most closely matches the device's pixel density, Android will display nothing for that image.
d. Low-resolution images do not scale well. For images to render nicely, a high-pixel-density device needs higher-resolution images than a low-pixel-density device.
Answer: c. If Android cannot find an image in the `drawable` folder that most closely matches the device's pixel density, Android will display nothing for that image. Actually, if Android cannot find an image in the `drawable` folder that most closely matches the device's pixel density, Android will scale the version from another `drawable` folder up or down as necessary.

2.5.2 Adding an App Icon

Q1. When your app is installed on a device, its icon and name appear with all other installed apps in the _____.
a. finder
b. explorer
c. launcher
d. None of the above.

Answer: c. launcher

Q2. Which of the first three statements about uploading apps to Google Play is *false*?
a. You can upload multiple versions of the app for various device- sizes and screen resolutions.
b. All images in the `mipmap` folders are uploaded with every version of your app.
c. You can remove extra `drawable` folders for specific pixel densities from a given app version to minimize the total installation size for a particular device.
d. All of the above are true.
Answer: d. All of the above are true.

2.5.3 Changing `RelativeLayout` to a `LinearLayout`

Q1. When you open a layout XML file, the layout's design appears in the layout editor and the layout's views and their hierarchical relationships appear in the _____ window.
a. Outline
b. Tree
c. Layout Editor
d. Component Tree
Answer: d. Component Tree

2.5.4 Changing the `LinearLayout`'s `id` and `orientation`

Q1. Which of the following statements is *false*?
a. When a GUI is displayed in the layout editor, you can use the Properties window below the Component Tree to configure the selected view's properties.
b. You also can edit a view's most commonly used properties by double clicking the view in the canvas. The layout editor then displays a small dialog in which you can set the view's `id` property and other properties that depend on the specific view:
c. For a `LinearLayout`, you can set the **`orientation`** to specify whether the layout's children are arranged in `horizontal` or `vertical` orientation.
d. For an `ImageView`, you can set the **`src`** (source) of the image to display.
Answer: c. For a `LinearLayout`, you can set the `orientation` to specify whether the layout's children are arranged in `landscape` or `portrait` orientation. Actually, for a `LinearLayout`, you can set the `orientation` to specify whether the layout's children are arranged in `horizontal` or `vertical` orientation.

2.5.5 Configuring the `TextView`'s `id` and `text` Properties

Q1. Which of the following statements is *false*?
a. It's considered good practice to place strings, string arrays, images, colors, font sizes, dimensions and other app resources in XML files within the subfolders of the project's `res` folder, so these resources can be managed separately from your app's Java code.
b. If you externalize color values, it becomes more difficult to update all components that use the same color.

c. If you wish to *localize* your app in several languages, storing the strings *separately* from the app's code allows you to change them easily.
d. In your project's `res` folder, the subfolder `values` contains a `strings.xml` file that's used to store the app's default language strings—English for our apps.
Answer: b. If you externalize color values, it becomes more difficult to update all components that use the same color. Actually, if you externalize color values, all components that use the same color can be updated to a new color simply by changing the color value in a central resource file.

2.5.6 Configuring the `TextView`'s `textSize` Property—Scaled Pixels and Density-Independent Pixels

Q1. Which of the following statements is false?
a. You should use density-independent pixels for font sizes, and scale-independent pixels for dimensions of views and other screen elements.
b. Defining your GUIs with density-independent pixels enables the Android platform to scale the GUI, based on the pixel density of a given device's screen.
c. One density-independent pixel is equivalent to one pixel on a 160-dpi screen.
d. On a 240-dpi screen, each density-independent pixel will be scaled by a factor of 240/160 (i.e., 1.5). So, a component that's 100 density-independent pixels wide will be scaled to 150 actual pixels wide.
Answer: a. You should use density-independent pixels for font sizes, and scale-independent pixels for dimensions of views and other screen elements. Actually, you should use density-independent pixels for dimensions of views and other screen elements, and scale-independent pixels for font sizes.

2.5.7 Setting the `TextView`'s `textColor` Property

Q1. Which of the following statements is *false*?
a. When you need custom colors in your apps, Google's Material Design guidelines recommend using colors from the Material Design color palette.
b. Colors are specified as RGB (red-green-blue) or ARGB (alpha-red-green-blue) values.
c. An RGB value consists of integer values in the range 1–100 that define the amounts of red, green and blue in the color, respectively.
d. Custom colors are defined in hexadecimal format, so the RGB components are values in the range `00` (the hexadecimal value for 0) to `FF` (the hexadecimal value for 255).
Answer: c. An RGB value consists of integer values in the range 1–100 that define the amounts of red, green and blue in the color, respectively. Actually, an RGB value consists of integer values in the range 0–255 that define the amounts of red, green and blue in the color, respectively.

2.5.8 Setting the `TextView`'s `gravity` Property

Q1. To center the text in the `TextView` if it wraps to multiple lines, you can set its _____ property to center.

a. `alignment`
b. `weight`
c. `gravity`
d. `positioning`
Answer: c. `gravity`

2.5.9 Setting the `TextView`'s `layout:gravity` Property

No questions.

2.5.10 Setting the `TextView`'s `layout:weight` Property

Q1. A `LinearLayout` can proportionally size its children based on their _____, which specify the view's relative size with respect to the layout's other views.
a. `layout:width`s
b. `layout:height`s
c. `layout:gravity`
d. `layout:weight`s
Answer: d. `layout:weights`

Q2. Android _____ checks your project for common errors, and makes suggestions for better security-, enhanced performance, improved accessibility, internationalization- and more. Some checks occur as you build your apps and write code.
a. Cleanser.
b. Lint.
c. Error Checker.
d. None of the above.
Answer: b. Lint

2.5.11 Adding an `ImageView` to Display the Image

Q1. Which of the following statements about adding an `ImageView` to the GUI by dragging it from the Palette's Widgets section onto the canvas is *false*?
a. When you drag a view onto the canvas, the layout editor displays orange guide lines, green guide lines and a tooltip.
b. The *orange guide lines* show the bounds of each existing view in the layout.
c. The *green guide lines* indicate where the new view will be placed with respect to the existing views—by default, new views are added at the top of a vertical `LinearLayout`, unless you position the mouse below the orange box that bounds the layout's bottommost view.
d. The *tooltip* displays how the view will be configured if you drop it at the current position.
Answer: c. The *green guide lines* indicate where the new view will be placed with respect to the existing views—by default, new views are added at the top of a vertical `LinearLayout`, unless you position the mouse below the orange box that bounds the layout's bottommost view. Actually, by default, new views are added

at the bottom of a vertical `LinearLayout`, unless you position the mouse above the orange box that bounds the layout's topmost view.

2.5.12 Previewing the Design

No questions.

2.6 Running the Welcome App

No questions.

2.7 Making Your App Accessible

Q1. Which of the following statements is *false*?
a. For people with visual disabilities, Android's TalkBack can speak screen text or text that you provide (when designing your GUI or programmatically) to help the user understand the purpose of a view.
b. Android also provides *Explore by Touch*, which enables the user to hear TalkBack speak what's on the screen where the user touches.
c. Most standard Android views support accessibility.
d. You enable TalkBack in the Settings app under Accessibility. From that page, you also can enable other Android accessibility features such as a *larger default text size* and the ability to use *gestures that magnify areas of the screen*.
Answer: c. Most standard Android views support accessibility. Actually, all standard Android views support accessibility.

Q2. For an `ImageView` there is no text for TalkBack to speak unless you provide it. It's considered good practice in Android to ensure that *every* view can be used with TalkBack by providing text for the _____ property of any view that does not display text.
a. `talkBack`
b. `description`
c. `hint`
d. `contentDescription`
Answer: d. `contentDescription`

2.8 Internationalizing Your App

Q1. Which of the following statements is *false*?
a. To reach the largest possible audience, you should consider designing your apps so that they can be customized for various locales and spoken languages.
b. You might also choose to use different colors, graphics and sounds based on the *locale*.
c. When the user launches the app, Android automatically finds and loads the resources that match the device's locale settings.

d. Designing an app so it can be customized is known as localization. Customizing an app's resources for each locale is known as internationalization.
Answer: d. Designing an app so it can be customized is known as localization. Customizing an app's resources for each locale is known as internationalization. Actually, designing an app so it can be customized is known as internationalization. Customizing an app's resources for each locale is known as localization.

2.8.1 Localization

No questions.

2.8.2 Naming the Folders for Localized Resources

Q1. Android uses a special folder-naming scheme to automatically choose the correct localized resources. You can name these folders with region information—`values-en-rUS` would contain a `strings.xml` file for United States English and _____ would contain a `strings.xml` file for United Kingdom English.
a. `values-en-rUK`
b. `values-en-rEN`
c. `values-en-rGB`
d. `values-en-rBR`
Answer: c. `values-en-rGB`

Q2. If localized resources are not provided for a given locale, Android uses the app's default resources—that is, those in the `res` folder's _____ subfolder.
a. `defaults`
b. `english`
c. `values`
d. `strings`
Answer: c. `values`

2.8.3 Adding String Translations to the App's Project

Q1. Android Studio provides a _____ for quickly and easily adding translations for existing strings in your app.
a. Translator
b. Translations Editor
c. Converter
d. None of the above.
Answer: b. Translations Editor

2.8.4 Localizing Strings

No questions.

2.8.5 Testing the App in Spanish on an AVD

Q1. If Android cannot find a localized version of a string resource, it uses the default version in the _____ file.
a. `res/values/defaults.xml`
b. `res/values/english.xml`
c. `res/values/values.xml`
d. `res/values/strings.xml`
Answer: d. `res/values/strings.xml`

2.8.6 Testing the App in Spanish on a Device

No questions.

2.8.7 TalkBack and Localization

Q1. When you first switch your device to French and enable TalkBack, Android will automatically download the _____ engine.
a. English-to-French.
b. Translations.
c. French text-to-speech.
d. French Transalation.
Answer: c. French text-to-speech.

2.8.8 Localization Checklist

No questions.

2.8.9 Professional Translation

No questions.