

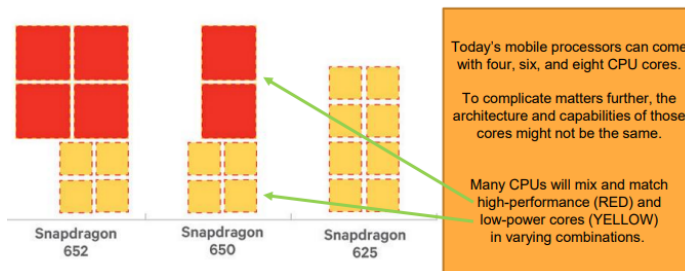


## 16. Lesson 09/05/23

### Concurrent AsyncTasks, AppBar Menu and Android Profiler (in practice)

#### Contents

- Executing **Multiple AsyncTask Simultaneously**
- Using the **Option Menu** of the **App Bar**
- Understanding how to **analyze App preferences**
  - CPU profiler



#### Coins SuperDownloader

We want to create an app able to download the images of the nine most important coins for a collector!

Link to high quality coins sample images can be found here:

[https://en.wikipedia.org/wiki/Dollar\\_coin\\_\(United\\_States\)](https://en.wikipedia.org/wiki/Dollar_coin_(United_States))

→ How can we download the coins' images?

**HINT:** create an **AsyncTask** for downloading a single image and then call it for each image.

See for instance: <https://stackoverflow.com/a/41572119>

Declare the appropriate permissions:

```
<uses-permission android:name="android.permission.INTERNET" />
```

```

private class DownloadImageTask extends AsyncTask<String, Void, Bitmap> {
    ImageView bmImage;

    public DownloadImageTask(ImageView bmImage) {
        this.bmImage = bmImage;
    }
    protected Bitmap doInBackground(String... urls) {
        String urldisplay = urls[0];
        Bitmap mIcon = null;
        try {
            InputStream in = new java.net.URL(urldisplay).openStream();
            mIcon = BitmapFactory.decodeStream(in);
        } catch (Exception e) {
            Log.e("Error", e.getMessage());
            e.printStackTrace();
        }
        return mIcon;
    }

    protected void onPostExecute(Bitmap result) {
        bmImage.setImageBitmap(result);
    }
}

```

Serial download: download 1 image at time

Parallel download: download all the images at once