

Debre Berhan University

College of Computing

Department of Computer Science

Course: CoSc4083 – Mobile Application Development

Assessment 1: App Development Project – 1

Last Commit: Friday, March 24, 17:30 EAT

Group: _____

Name

ID

_____	_____
_____	_____

Instruction:

- Work in pair
- Develop a mobile /android/ app that calculates the electric consumption of different appliance and monthly bill.
- Create a github repository and publish your project.
- Every member of the group should contribute at the same time in different part of the project
- Invite the github user “chalewt” /Chalew Tesfaye/ as a contributor to your project

Evaluation:

Criteria	Weight	Score
User Interface (UX/UI)	5	
Validity and passing the given test case	10	
Git commit and contribution	5	
Total:	20	

Task: You have been tasked with developing an electric consumption and bill calculator application for the Android mobile phone system.

The image shows a smartphone screen with an application titled "Electric Bill Calculator". The status bar at the top shows a Wi-Fi icon, signal strength, and the time 7:39. The app interface includes a header with the title, followed by the instruction "Choose and fill that applies to you". There are four appliance categories, each with a checkbox and a table for input:

- ☐ Light Bulb
Table with columns: Power(Watt), Qty, Usage (hr/Day)
- ☐ Electric Oven /Stove/
Table with columns: Power(Watt), Qty, Usage (hr/Day)
- ☐ Electric kettle /Boiler/
Table with columns: Power(Watt), Qty, Usage (hr/Day)
- ☐ Electric Grill /Mitad/
Table with columns: Power(Watt), Qty, Usage (hr/m)

Below the tables are two input fields: "Consumption (KWh/m) : _____" and "Payable Bill (ETB/m) : _____". At the bottom is a large button labeled "Calculate".

Figure 1: Simple Electric consumption and bill calculator UI mock

Expected Operation: The consumption and bill calculator will be expected to perform:

- accept the wattage, quantity and period of usage in hours per day or per month of the selected appliance, and calculate the monthly consumption of the appliance in watts.
- Add the total consumption of the selected appliance and display the monthly electric consumption in kilowatt hour (kWh). (1kW = 1000watt)

- Calculate the monthly bill of the customer according to the consumption rate given in



የመኖሪያ ቤት ታሪፍ መደብ	ወርሃዊ ፍጆታ [ኪ.ዋሰ]	ክፍያ በኪ.ዋሰ [ብር]
የመጀመሪያ ብለክ	እስከ 50	0.2730
ሁለተኛ ብለክ	እስከ 100	0.7670
ሶስተኛ ብለክ	እስከ 200	1.6250
አራተኛ ብለክ	እስከ 300	2.0000
አምስተኛ ብለክ	እስከ 400	2.2000
ስድስተኛ ብለክ	እስከ 500	2.4050
ሰባተኛ ብለክ	ከ500 በላይ	2.4810

የታሪፍ መደብ	የፍጆታ መጠን /አይነት/	የአገልግሎት ክፍያ (ብር)
መኖሪያ ቤት	ድህረ አገልግሎት እስከ 50 ኪ.ዋሰ	10.00
	ድህረ አገልግሎት ከ50 ኪ.ዋሰ በላይ	42.00
	ቅድመ አገልግሎት እስከ 50 ኪ.ዋሰ	3.50
	ቅድመ አገልግሎት ከ50 ኪ.ዋሰ በላይ	14.70

Table 1: Electric Consumption rate

(src: <http://www.ethiopianelectricutility.gov.et/contents/postpaid>)