2025 – Lab Exam 03
Report

Student ID	IT23203280	
Batch	WD 07.02	
Marking Guide		
1. **Functionality**: How well the core and bonus features are implemented	**4**	
2. **Creativity & Usability**: Clean and intuitive UI/UX design	**2**	
3. **Validation & Error Handling**: Proper input validation, error handling, and user feedback implementation	**2**	
4. **Data Persistence**: Proper use of **SharedPreferences** and **Internal Storage**	**2**	
Total Marks	**10**	
Evaluator		

Description:

SmartBudget helps users manage their personal finances by tracking income, expenses, and savings. It features transaction management with categorization, monthly budget setup, and real-time budget tracking. Users can view category-wise spending summaries to analyze habits and improve budgeting.

The app supports **dark mode** for a better user experience in low-light environments. Data is stored using **SharedPreferences** to maintain user settings and transaction history across sessions. Bonus features include **data backup and restore** via internal storage and **push notifications** to alert users when nearing or exceeding their budget, along with optional daily reminders.

Screenshots:

Track Your Finances

Easily record income and expenses with detailed categories. Stay on top of your financial journey!

SKIP

NEXT

Smart Budgeting

Set monthly budgets and get real-time insights. Never overspend again with smart notifications!

SKIP

NEXT

Visual Analytics

Understand your spending patterns with beautiful charts. Make informed financial decisions!

SKIP

GET STARTED
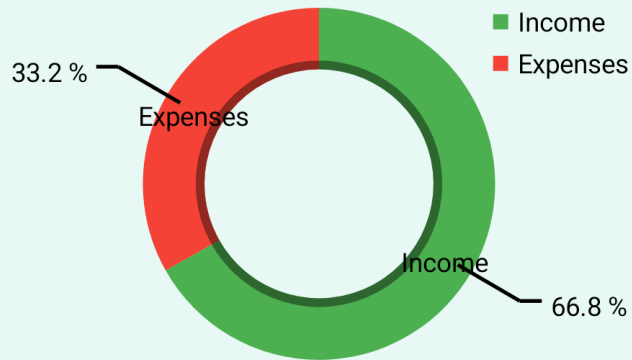
Enter Passcode

Enter 1234

SUBMIT

Total Balance

$296.00

Total Income

$588.00

Total Expense

$292.00

Income & Expenses

■ Income
■ Expenses

33.2 %

Expenses

Income

66.8 %

Income Trend

Apr 24	Apr 24	Apr 24	Apr 24	Apr 25

$341.00

$300.00

$200.00

$123.00 $123.00

$100.00

$1.00

$0.00

Dashboard

b 💰 Salary	+$1.00 Apr 23, 2025	✏️	🗑️
c 🍔 Food	-$3.00 Apr 23, 2025	✏️	🗑️
new 💰 Salary	+$341.00 Apr 24, 2025	✏️	🗑️
new2 📄 Bills	-$54.00 Apr 24, 2025	✏️	🗑️
new2 💰 Salary	+$123.00 Apr 24, 2025	✏️	🗑️
game 🎮 Entertainment	-$112.00 Apr 24, 2025	✏️	🗑️
tr1 💰 Salary	+$123.00 Apr 25, 2025	✏️	🗑️
as 🍔 Food	-$123.00 Apr 25, 2025	✏️	🗑️

+

Transactions

Categories

Total Balance

$296.00

Total Income
$588.00

Total Expense
$292.00
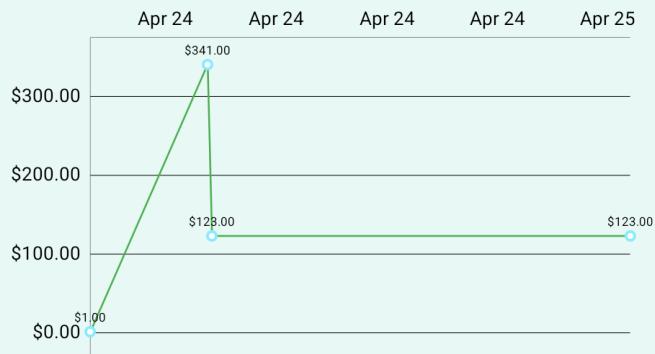
| All | Income | Expense |

🍔

Food

$126.00

✏️ 🗑️

🚗

Transport

$0.00

✏️ 🗑️

📄

Bills

$54.00

✏️ 🗑️

🎮

Entertainment

$112.00

✏️ 🗑️

➕

Categories

Monthly Budget

Amount
1000.0

SAVE

Budget Progress

29%

Budget vs Expenses

$1,000.00

$1,000.00
$900.00
$800.00
$700.00
$600.00
$500.00
$400.00
$300.00

$292.00

Budget   Budget   Budget   Budget   Budget   Expenses

Categorical Charts

Income by Category

$588.00

$500.00
$400.00
$300.00

Budget

Budget vs Expenses

$1,000.00	
$1,000.00	
$900.00	
$800.00	
$700.00	
$600.00	
$500.00	
$400.00	$292.00
$300.00	

Budget Budget Budget Budget Budget Expenses

Categorical Charts

Income by Category

$588.00

$500.00	
$400.00	
$300.00	
$200.00	
$100.00	
$0.00	

Salary

■ Income by Category

Expenses by Category

$120.00	$126.00	$112.00
$100.00		
$80.00		
$60.00	$54.00	
$40.00		
$20.00		
$0.00		

Food   Bills   Entertainment

■■■ Expenses by Category

Budget

Currency

USD ($)
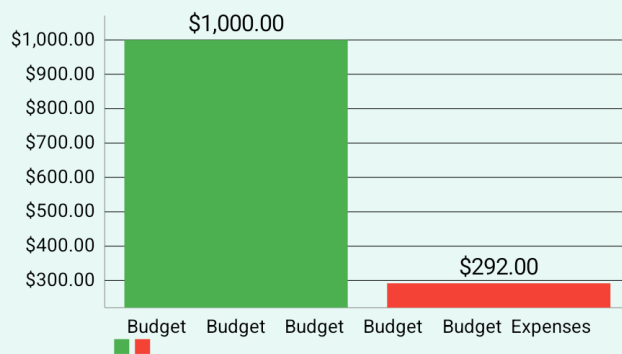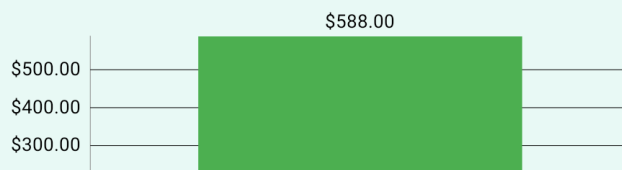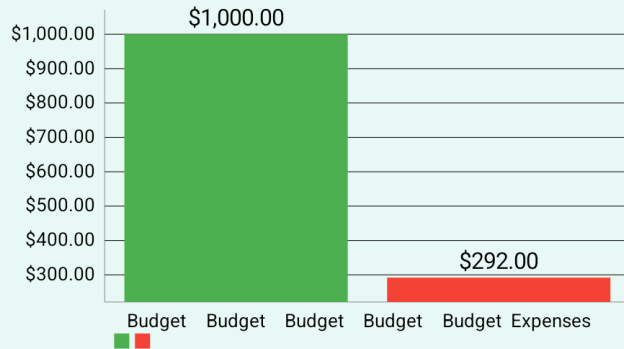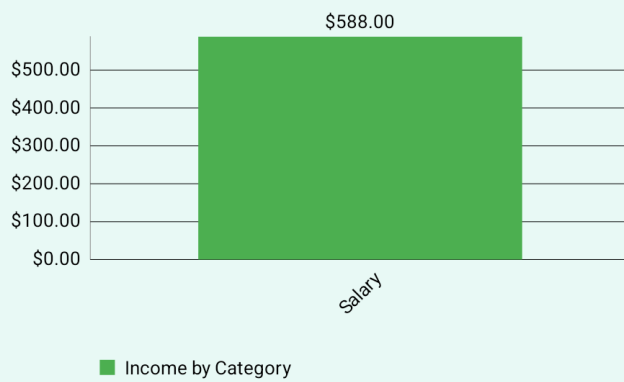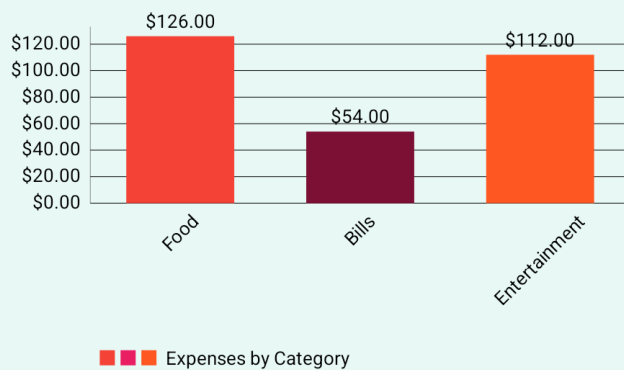
Backup & Restore

BACKUP

Restore Data

RESTORE

Dark Mode

Enable Dark Mode

Settings

Title
income 1

Amount
1000

Type

◉ Income   ○ Expense

Category

💰 Salary

🛢️ new3

🫀 income 2

SAVE   CANCEL

b
+$1.00
💰 Salary
Apr 23, 2025

c
-$3.00
🍔 Food
Apr 23, 2025

new
+$341.00
💰 Salary
Apr 24, 2025

new2
-$54.00
📄 Bills
Apr 24, 2025

Delete Transaction

Are you sure you want to delete this transaction?

CANCEL   DELETE

tr1
+$123.00
💰 Salary
Apr 25, 2025

as
-$123.00
🍔 Food
Apr 25, 2025

Transactions

Categories

Total Balance

$296.00

Total Income

$588.00

Total Expense

$292.00

Add Category

Category Name

Category Emoji

◉ Expense   ○ Income

CANCEL   **ADD**

new3
$0.00

income 2
$0.00

Categories

Categories

Total Balance

$296.00

Total Income
$588.00

Total Expense
$292.00

Edit Category

Category Name
Others

Category Emoji
📦

🔘 Expense   ⚪ Income

CANCEL   SAVE

new3
$0.00

income 2
$0.00

Categories

Categories

Total Balance

$296.00

Total Income
$588.00

Total Expense
$292.00

| All | Income | Expense |

Delete Category

Are you sure you want to delete Others?
Any transactions using this category will be
moved to 'Others'.

CANCEL   DELETE

new3
$0.00

income 2
$0.00

Categories

Currency

USD ($)

Select Currency

- ◉ USD ($)
- ◯ EUR (€)
- ◯ GBP (£)
- ◯ JPY (¥)
- ◯ INR (₹)
- ◯ AUD (A$)
- ◯ CAD (C$)
- ◯ LKR (රු)
- ◯ SGD (S$)
- ◯ CNY (¥)

CANCEL   SELECT

Settings

Backup & Restore

Create a backup of your data to restore it later if needed.

CREATE BACKUP

Backup History

SmartBudget_Backup_202
50425_140935.json

Apr 25, 2025 14:09

SmartBudget_Backup_202
50425_130657.json

Apr 25, 2025 13:06

SmartBudget_Backup_202
50425_130558.json

Apr 25, 2025 13:05

SmartBudget_Backup_202
50425_024456.json

Apr 25, 2025 02:44

SmartBudget_Backup_202
50425_024331.json

Apr 25, 2025 02:43

Settings

← **Backup & Restore**

Backup & Restore

Create a backup of your data to restore it later if needed.

CREATE BACKUP

Backup History

SmartBudget_Backup_202
50429_135740.json

Apr 29, 2025 13:57

SmartBudget_Backup_202
50425_140935.json

Apr 25, 2025 14:09

SmartBudget_Backup_202
50425_130657.json

Apr 25, 2025 13:06

SmartBudget_Backup_202
50425_130558.json

Apr 25, 2025 13:05

SmartBudget_Backup_202
50425_024456.json

Apr 2   Backup created successfully

Settings

Internet >

Bluetooth >

Flashlight

Do Not Disturb

Smart Budget • now

Backup Created

Your data has been backed up successfully

Manage

Clear all

Backup & Restore

Create a backup of your data to restore it later if needed.

CREATE BACKUP

Backup History

SmartBudget_Backup_202
50429_135740.json

Delete Backup

Are you sure you want to delete this backup?

CANCEL   DELETE

SmartBudget_Backup_202
50425_130657.json

Apr 25, 2025 13:06

SmartBudget_Backup_202
50425_130558.json

Apr 25, 2025 13:05

SmartBudget_Backup_202
50425_024456.json

Apr 25, 2025 02:44

Settings

Backup & Restore

Create a backup of your data to restore it later if needed.

CREATE BACKUP

Backup History

SmartBudget_Backup_202
50425_140935.json

Apr 25, 2025 14:09

SmartBudget_Backup_202
50425_130657.json

Apr 25, 2025 13:06

SmartBudget_Backup_202
50425_130558.json

Apr 25, 2025 13:05

SmartBudget_Backup_202
50425_024456.json

Apr 25, 2025 02:44

SmartBudget_Backup_202
50425_024331.json

Apr 2   Backup deleted successfully

Settings

Backup & Restore

Create a backup of your data to restore it later if needed.

CREATE BACKUP

Backup History

SmartBudget_Backup_202
50425_140935.json

Restore Backup

Are you sure you want to restore this backup? Current data will be replaced.

CANCEL   RESTORE

SmartBudget_Backup_202
50425_130558.json

Apr 25, 2025 13:05

SmartBudget_Backup_202
50425_024456.json

Apr 25, 2025 02:44

SmartBudget_Backup_202
50425_022600.json

Apr 25, 2025 02:26

Settings

Backup & Restore

Create a backup of your data to restore it later if needed.

CREATE BACKUP

Backup History

SmartBudget_Backup_202
50425_140935.json

Apr 25, 2025 14:09

SmartBudget_Backup_202
50425_130657.json

Apr 25, 2025 13:06

SmartBudget_Backup_202
50425_130558.json

Apr 25, 2025 13:05

SmartBudget_Backup_202
50425_024456.json

Apr 25, 2025 02:44

SmartBudget_Backup_202
50425_022600.json

Apr 25   Data restored successfully

Settings

Internet >

Bluetooth >

Flashlight

Do Not Disturb

Smart Budget • now 🔔

Backup Restored

Your data has been restored successfully

Manage

Clear all

Currency

USD ($)

Backup & Restore

BACKUP

Restore Data

RESTORE

Dark Mode

Enable Dark Mode

Settings

Total Balance
$296.00

Total Income
$588.00

Total Expense
$292.00

Income & Expenses

- Income
- Expenses

33.2 %

Expenses

Income

66.8 %

Income Trend

| Apr 24 | Apr 24 | Apr 24 | Apr 24 | Apr 25 |

$341.00

$300.00

$200.00

$123.00

$123.00

$100.00

$0.00
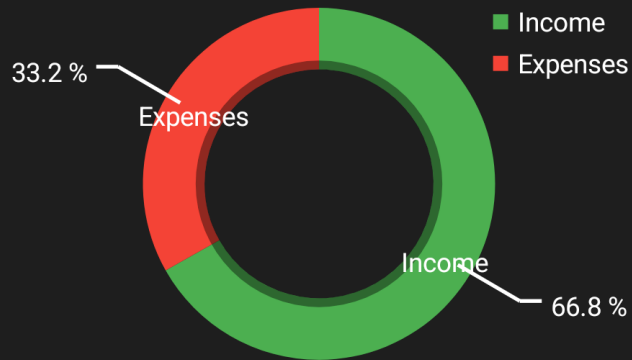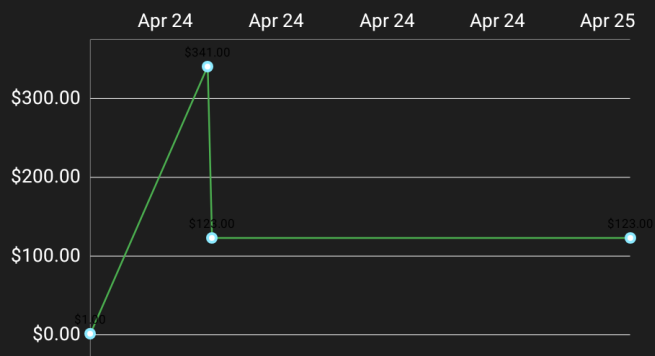
Dashboard

b 💰 Salary	+$1.00 Apr 23, 2025	✏️	🗑️
c 🍔 Food	-$3.00 Apr 23, 2025	✏️	🗑️
new 💰 Salary	+$341.00 Apr 24, 2025	✏️	🗑️
new2 📄 Bills	-$54.00 Apr 24, 2025	✏️	🗑️
new2 💰 Salary	+$123.00 Apr 24, 2025	✏️	🗑️
game 🎮 Entertainment	-$112.00 Apr 24, 2025	✏️	🗑️
tr1 💰 Salary	+$123.00 Apr 25, 2025	✏️	🗑️
as 🍔 Food	-$123.00 Apr 25, 2025	✏️	🗑️

+
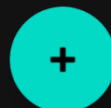
Transactions

Monthly Budget

Amount
1000.0
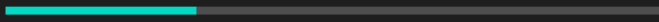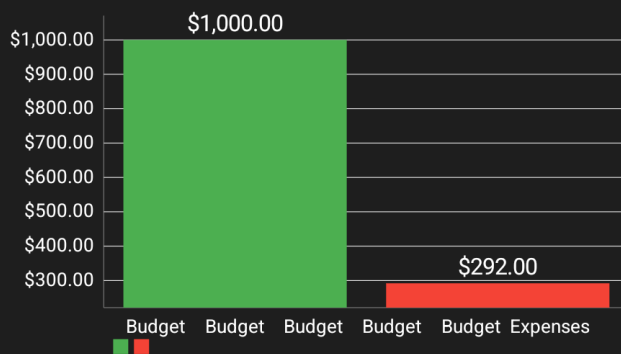
SAVE

Budget Progress

29%

Budget vs Expenses

$1,000.00

$1,000.00	
$900.00	
$800.00	
$700.00	
$600.00	
$500.00	
$400.00	
$300.00	$292.00

Budget   Budget   Budget   Budget   Budget   Expenses

Categorical Charts

Income by Category

$588.00

$500.00
$400.00
$300.00
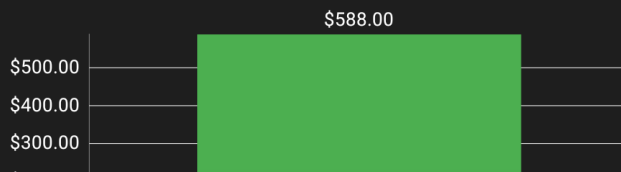
Budget

Categories

Total Balance

$296.00

Total Income
$588.00

Total Expense
$292.00

| All | Income | Expense |

Others
$0.00

newcat
$0.00

new3
$0.00

income 2
$0.00

Budget vs Expenses

$1,000.00

$1,000.00					
$900.00					
$800.00					
$700.00					
$600.00					
$500.00					
$400.00			$292.00		
$300.00					
Budget	Budget	Budget	Budget	Budget	Expenses

Categorical Charts

Income by Category

$588.00

$500.00	
$400.00	
$300.00	
$200.00	
$100.00	
$0.00	Salary

■ Income by Category

Expenses by Category

$126.00		$112.00
$120.00		
$100.00		
$80.00		
$60.00	$54.00	
$40.00		
$20.00		
$0.00		
Food	Bills	Entertainment
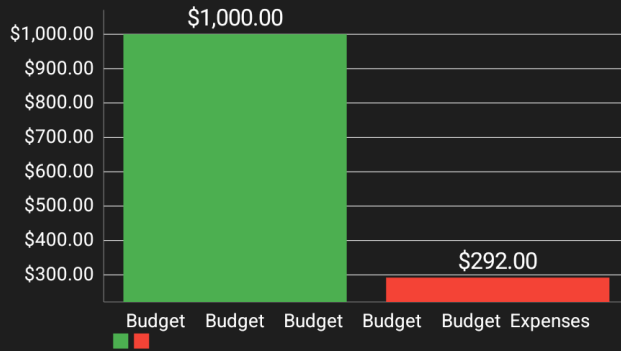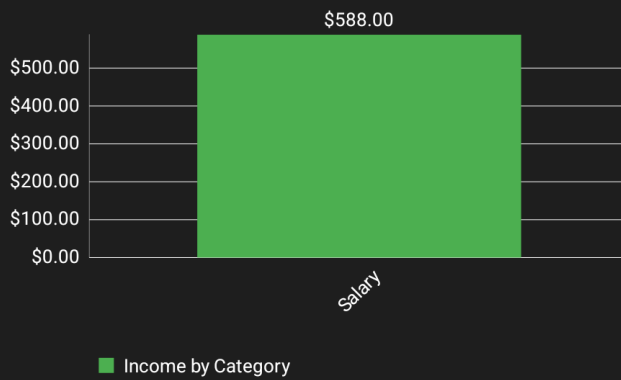
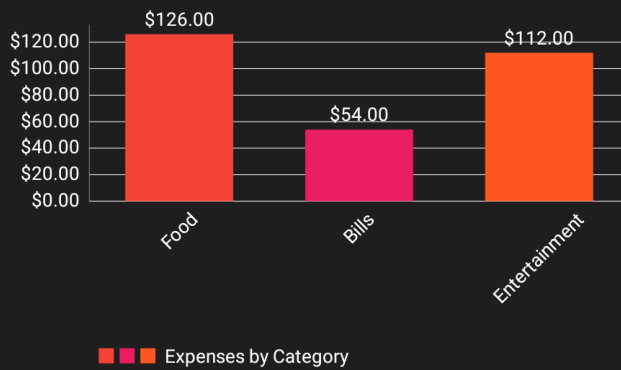■■■ Expenses by Category

Budget

Content of xml files of Strings and Colors:

Strings

```xml
</> values\colors.xml      </> night\colors.xml      </> strings.xml  ×

1    <?xml version="1.0" encoding="utf-8"?>
2    <resources>
3        <string name="app_name">Smart Budget</string>
4        <string name="onboarding_image">Onboarding illustration</string>
5
6        <!-- Navigation -->
7        <string name="title_dashboard">Dashboard</string>
8        <string name="title_transactions">Transactions</string>
9        <string name="title_budget">Budget</string>
10       <string name="title_settings">Settings</string>
11       <string name="title_add_transaction">Add Transaction</string>
12       <string name="title_edit_transaction">Edit Transaction</string>
13
14       <!-- Transaction -->
15       <string name="hint_title">Title</string>
16       <string name="hint_amount">Amount</string>
17       <string name="hint_category">Category</string>
18       <string name="hint_date">Date</string>
19       <string name="hint_type">Type</string>
20       <string name="hint_currency">Select Currency</string>
21       <string name="type_income">Income</string>
22       <string name="type_expense">Expense</string>
23       <string name="no_transactions">No transactions yet</string>
24
25       <!-- Budget -->
26       <string name="hint_monthly_budget">Monthly Budget</string>
27       <string name="budget_warning">Budget Warning: Less than 20% remaining</string>
28       <string name="budget_exceeded">Budget Exceeded!</string>
29
30       <!-- Settings -->
31       <string name="settings_currency">Currency</string>
32       <string name="settings_backup">Backup & Restore</string>
33       <string name="settings_restore">Restore Data</string>
34       <string name="settings_notifications">Notifications</string>
35
36       <!-- Messages -->
```

```xml
<resources>

    <!-- Messages -->
    <string name="msg_transaction_saved">Transaction saved successfully</string>
    <string name="msg_transaction_deleted">Transaction deleted successfully</string>
    <string name="msg_budget_updated">Budget updated successfully</string>
    <string name="msg_backup_success">Backup created successfully</string>
    <string name="msg_restore_success">Data restored successfully</string>
    <string name="msg_error">An error occurred</string>

    <!-- Buttons -->
    <string name="btn_save">Save</string>
    <string name="btn_cancel">Cancel</string>
    <string name="btn_delete">Delete</string>
    <string name="btn_add">Add</string>
    <string name="btn_edit">Edit</string>
    <string name="delete">Delete</string>

    <!-- New strings from the code block -->
    <string name="total_balance">Total Balance</string>
    <string name="income">Income</string>
    <string name="expense">Expense</string>
    <string name="save">Save</string>
    <string name="backup">Backup</string>
    <string name="restore">Restore</string>
    <string name="add_transaction">Add Transaction</string>
    <string name="edit_transaction">Edit Transaction</string>
    <string name="delete_transaction">Delete transaction</string>

    <string-array name="transaction_categories">
        <item>Salary</item>
        <item>Freelance</item>
        <item>Investments</item>
        <item>Gifts</item>
        <item>Food</item>
        <item>Transportation</item>
        <item>Housing</item>
```

```xml
<resources>
        <string-array name="transaction_categories">
            <item>Salary</item>
            <item>Freelance</item>
            <item>Investments</item>
            <item>Gifts</item>
            <item>Food</item>
            <item>Transportation</item>
            <item>Housing</item>
            <item>Utilities</item>
            <item>Entertainment</item>
            <item>Shopping</item>
            <item>Healthcare</item>
            <item>Education</item>
            <item>Other</item>
        </string-array>

        <string name="currency_usd">USD ($)</string>
        <string name="currency_eur">EUR (€)</string>
        <string name="currency_gbp">GBP (£)</string>
        <string name="currency_jpy">JPY (¥)</string>
        <string name="currency_inr">INR (₹)</string>
        <string name="currency_aud">AUD (A$)</string>
        <string name="currency_cad">CAD (C$)</string>
        <string name="currency_lkr">LKR (රු)</string>
        <string name="currency_cny">CNY (¥)</string>
        <string name="currency_sgd">SGD (S$)</string>
        <string name="currency_myr">MYR (RM)</string>
        <string name="currency_thb">THB (฿)</string>
        <string name="currency_idr">IDR (Rp)</string>
        <string name="currency_php">PHP (₱)</string>
        <string name="currency_vnd">VND (đ)</string>
        <string name="currency_krw">KRW (₩)</string>
        <string name="currency_aed">AED (إ.د)</string>
        <string name="currency_sar">SAR (﷼)</string>
        <string name="currency_qar">QAR (﷼)</string>
```

```xml
 2      <resources>
63          <string-array name="transaction_categories">
76              <item>Other</item>
77          </string-array>
78
79          <string name="currency_usd">USD ($)</string>
80          <string name="currency_eur">EUR (€)</string>
81          <string name="currency_gbp">GBP (£)</string>
82          <string name="currency_jpy">JPY (¥)</string>
83          <string name="currency_inr">INR (₹)</string>
84          <string name="currency_aud">AUD (A$)</string>
85          <string name="currency_cad">CAD (C$)</string>
86          <string name="currency_lkr">LKR (රු)</string>
87          <string name="currency_cny">CNY (¥)</string>
88          <string name="currency_sgd">SGD (S$)</string>
89          <string name="currency_myr">MYR (RM)</string>
90          <string name="currency_thb">THB (฿)</string>
91          <string name="currency_idr">IDR (Rp)</string>
92          <string name="currency_php">PHP (₱)</string>
93          <string name="currency_vnd">VND (đ)</string>
94          <string name="currency_krw">KRW (₩)</string>
95          <string name="currency_aed">AED (١.د)</string>
96          <string name="currency_sar">SAR (ر.س)</string>
97          <string name="currency_qar">QAR (ر.ق)</string>
98
99          <string name="backup_description">Create a backup of your data to restore it later
100         <string name="backup_history">Backup History</string>
101         <string name="no_backups">No backups available</string>
102         <string name="btn_create_backup">Create Backup</string>
103         <string name="msg_backup_deleted">Backup deleted successfully</string>
104     </resources>
```

Colors

```xml
</> values\colors.xml  ✕    </> night\colors.xml

1    <?xml version="1.0" encoding="utf-8"?>
2    <resources>
3        <color name="purple_200">#FFBB86FC</color>
4        <color name="purple_500">#FF6200EE</color>
5        <color name="purple_700">#FF3700B3</color>
6        <color name="teal_200">#FF03DAC5</color>
7        <color name="teal_700">#FF018786</color>
8        <color name="black">#FF000000</color>
9        <color name="white">#FFFFFFFF</color>
10       <color name="green_500">#FF4CAF50</color>
11       <color name="red_500">#FFF44336</color>
12       <color name="orange_500">#FFFF9800</color>
13       <color name="card_background_light_green">#E8F9F5</color>
14
15       <!-- Chart Colors -->
16       <color name="chart_color_1">#FF6200EE</color>
17       <color name="chart_color_2">#FF03DAC5</color>
18       <color name="chart_color_3">#FF3700B3</color>
19       <color name="chart_color_4">#FF018786</color>
20       <color name="chart_color_5">#FFBB86FC</color>
21
22       <!-- Theme Colors -->
23       <color name="dark_green">#1B5E20</color>
24       <color name="dark_green_variant">#2E7D32</color>
25       <color name="colorPrimary">@color/dark_green</color>
26       <color name="colorAccent">#FF4081</color>
27       <color name="background">#FFFFFF</color>
28       <color name="surface">#FFFFFF</color>
29       <color name="onBackground">#000000</color>
30       <color name="onSurface">#000000</color>
31       <color name="income_green">#4CAF50</color>
32       <color name="expense_red">#F44336</color>
33       <color name="mint_green">#E8F9F5</color>
34       <color name="light_mint">#E8F9F5</color>
35       <color name="mint_accent">#40CFA9</color>
36
```

```xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="purple_200">#FFBB86FC</color>
    <color name="purple_500">#FF6200EE</color>
    <color name="purple_700">#FF3700B3</color>
    <color name="teal_200">#FF03DAC5</color>
    <color name="teal_700">#FF018786</color>
    <color name="black">#FF000000</color>
    <color name="white">#FFFFFFFF</color>
    <color name="green_500">#FF4CAF50</color>
    <color name="red_500">#FFF44336</color>
    <color name="orange_500">#FFFF9800</color>

    <!-- Chart Colors -->
    <color name="chart_color_1">#FF6200EE</color>
    <color name="chart_color_2">#FF03DAC5</color>
    <color name="chart_color_3">#FF3700B3</color>
    <color name="chart_color_4">#FF018786</color>
    <color name="chart_color_5">#FFBB86FC</color>

    <color name="colorPrimary">#90CAF9</color>
    <color name="colorAccent">#FF80AB</color>
    <color name="background">#121212</color>
    <color name="surface">#1E1E1E</color>
    <color name="onBackground">#FFFFFF</color>
    <color name="onSurface">#FFFFFF</color>
</resources>
```