

CHAPTER V

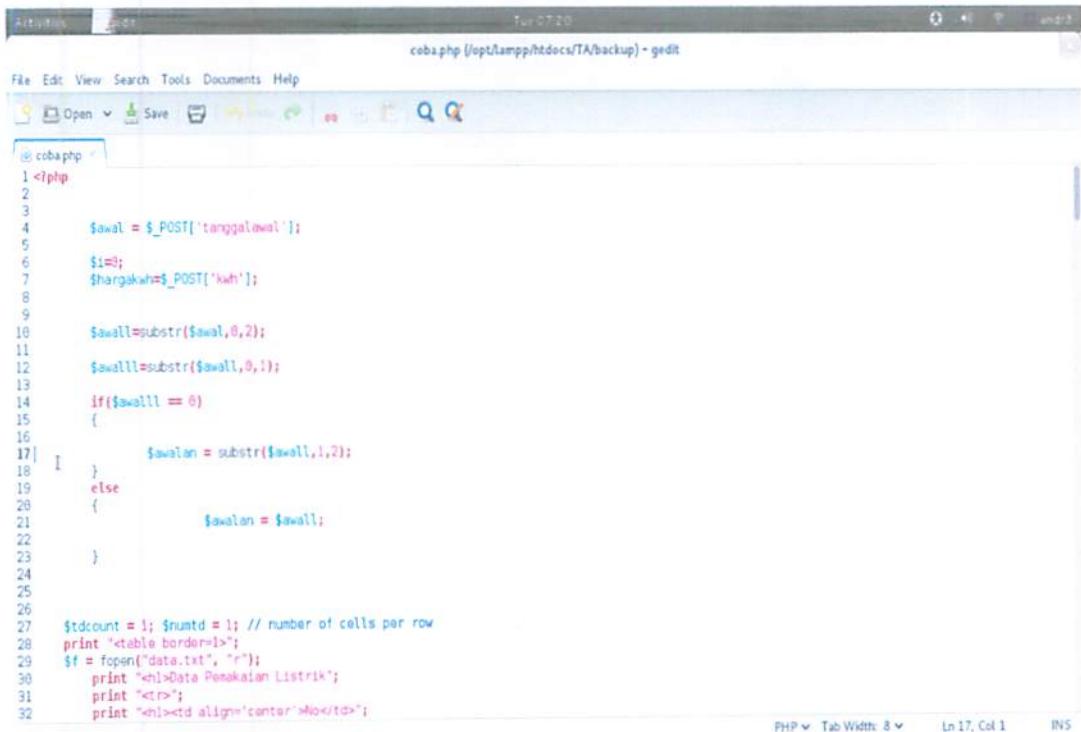
IMPLEMENTATION AND TESTING

5. 1 Implementation

First we need to enable localhost through the terminal in linux. After that we open a browser to view the application program by filling url with localhost name and the name of the php file in the program files.

5.1.1 Step 1 - Preprocessing

Coding is intended to separate the date because in my output in the first localhost I have to input the date, then I use this coding to separate the digits in the date.



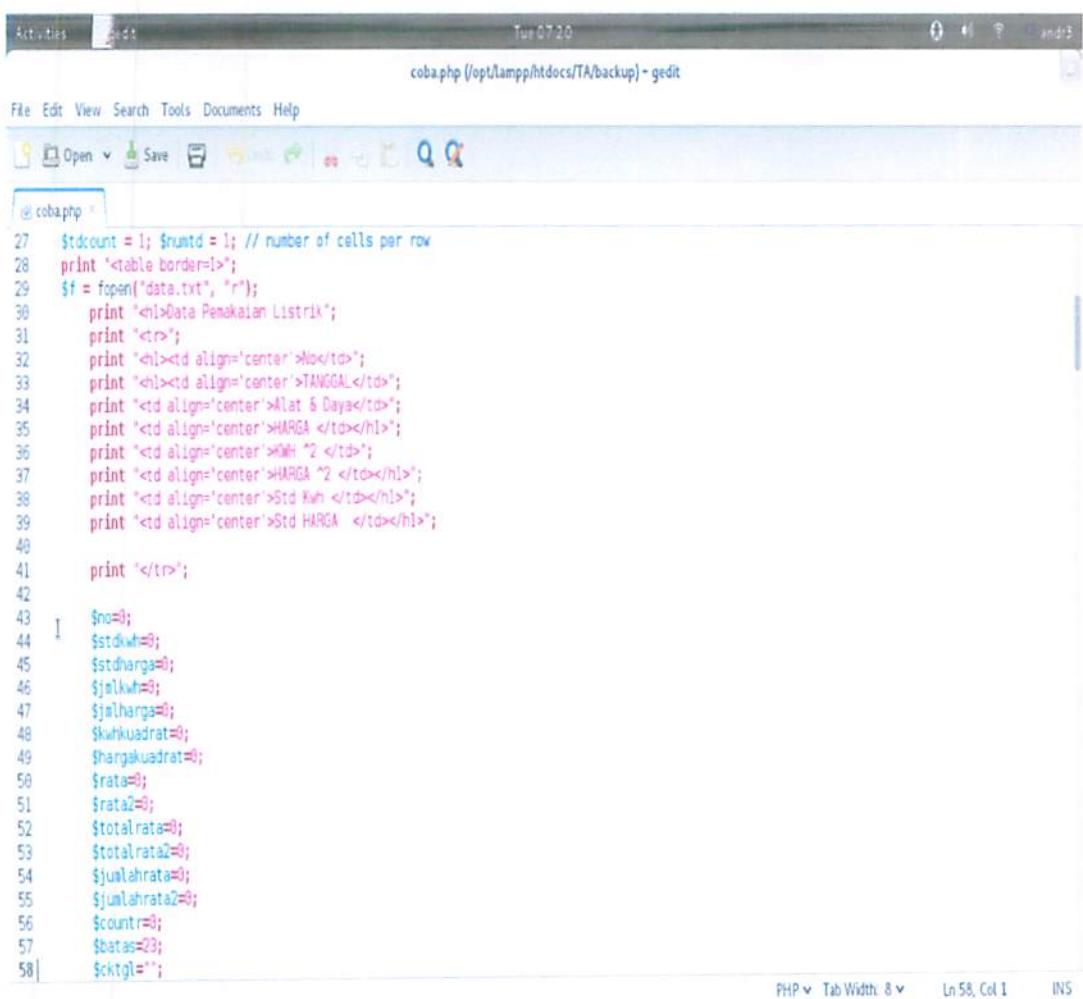
The screenshot shows a Gedit text editor window with the file 'coba.php' open. The code is as follows:

```
1 <?php
2
3     $awal = $_POST['tanggalawal'];
4
5     $t=0;
6     $hargakwh=$_POST['kwh'];
7
8
9     $awall=substr($awal,0,2);
10    $awall=substr($awall,0,1);
11
12    if($awall == 0)
13    {
14        $awalan = substr($awall,1,2);
15    }
16    else
17    {
18        $awalan = $awall;
19    }
20
21
22
23
24
25
26
27     $tdcount = 1; $numtd = 1; // number of cells per row
28     print "<table border=1>";
29     $f = fopen("data.txt", "r");
30     print "<tr><td>Data Pemakaian Listrik";
31     print "<br>";
32     print "<td align='center'>No</td>";
```

Figure 5.1.1 Preprocessing

5.1.2. Step 2 – Declared in the table column names and variable

This coding function to retrieve a txt database by using fopen while, after retrieving data from the database in the form of txt then we will take a column of the data txt, txt after retrieving data from the last few columns we made coding to retrieve data from the data txt through input by taking a date.



The screenshot shows a Gedit text editor window with the following details:

- File menu: File Edit View Search Tools Documents Help
- Toolbar: Open Save Print Find Replace Undo Redo
- Status bar: Tue 07.20 cobap.php /opt/lampp/htdocs/TA/backup - gedit PHP v Tab Width: 8 v Ln 58, Col 1 INS

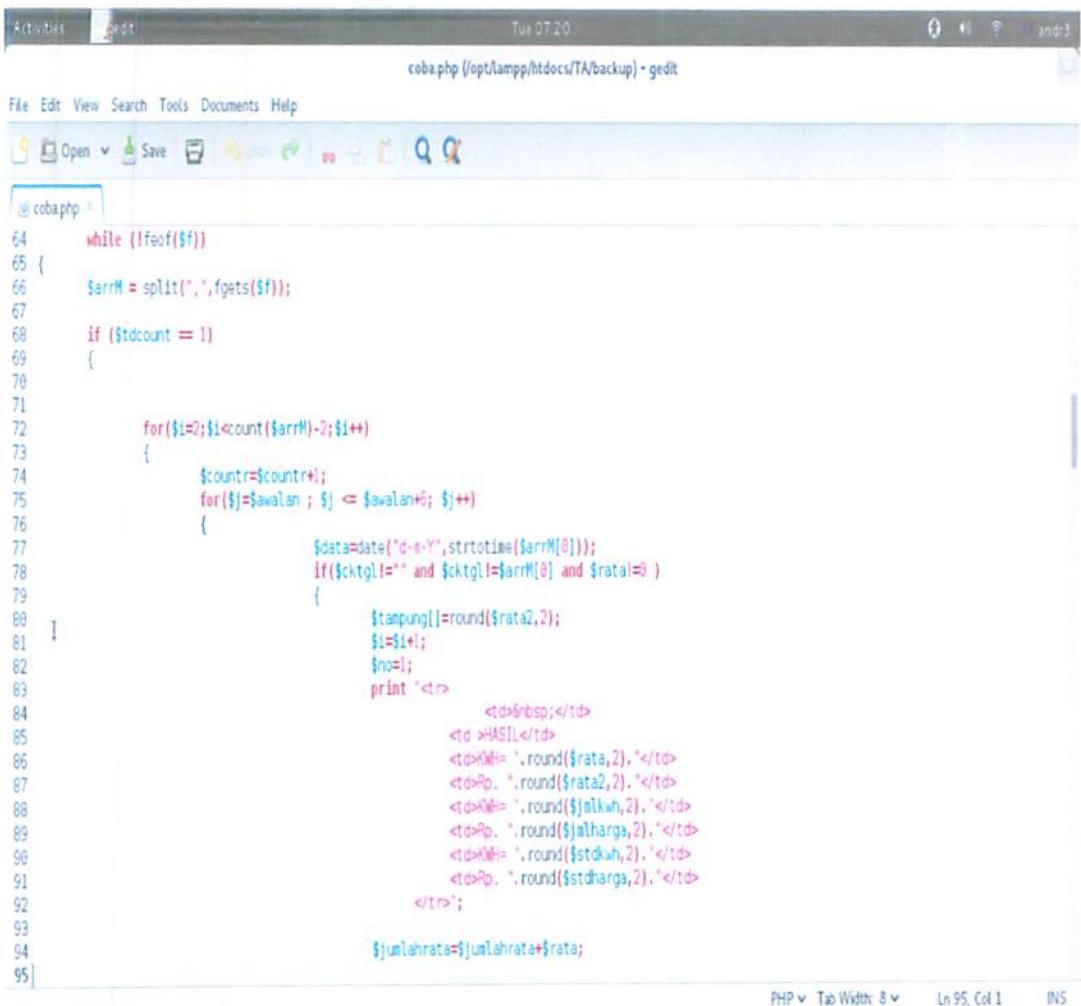
The code in the editor is as follows:

```
Activities Edit Tue 07.20 cobap.php /opt/lampp/htdocs/TA/backup - gedit
File Edit View Search Tools Documents Help
Open Save Print Find Replace Undo Redo
cobap.php
27 $tdcount = 1; $runtd = 1; // number of cells per row
28 print "<table border=1>";
29 $f = fopen("data.txt", "r");
30 print "<h1>Data Pemakaian Listrik";
31 print "</h1>";
32 print "<tr><td align='center'>No</td>";
33 print "<td align='center'>TANGGAL</td>";
34 print "<td align='center'>Alat & Daya</td>";
35 print "<td align='center'>HARGA </td></h1>";
36 print "<td align='center'>Kwh "2 </td>";
37 print "<td align='center'>HARGA "2 </td></h1>";
38 print "<td align='center'>Std Kwh </td></h1>";
39 print "<td align='center'>Std HARGA </td></h1>";
40
41 print "</tr>";
42
43 $no=0;
44 $stdkwh=0;
45 $stdharga=0;
46 $jmlkwh=0;
47 $jmlharga=0;
48 $kuhkuadrat=0;
49 $hargaikuadrat=0;
50 $rata=0;
51 $rata2=0;
52 $totalrata=0;
53 $totalrata2=0;
54 $jualahrata=0;
55 $jumlahrata2=0;
56 $count=0;
57 $batas=23;
58 $ktgl="";
```

Figure 5.1.2 Declared in the table column names and variable

5.1.3 Step 3 – Open the database and specify the data input through the date

This coding function to retrieve a txt database by using fopen while, after retrieving data from the database in the form of txt then we will take a column of the data txt, txt after retrieving data from the last few columns we made coding to retrieve data from the data txt through input by taking a date.



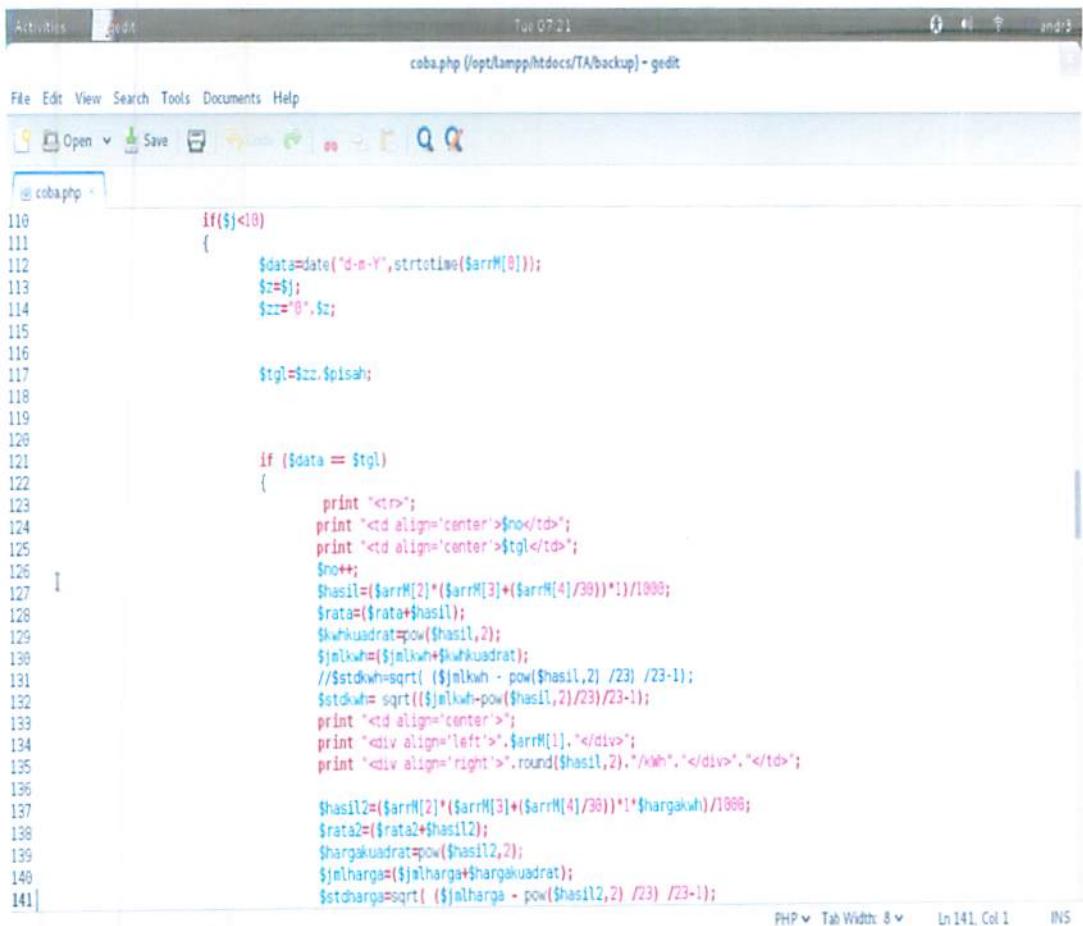
```
Activities gedit Tue 07 20
gedit coba.php /opt/lampp/htdocs/TA/backup • gedit
File Edit View Search Tools Documents Help
Open Save & Q Q
cobaphp
64 while (!feof($f))
65 {
66     $arrM = split(",", fgets($f));
67
68     if ($stdcount == 1)
69     {
70
71         for($i=2;$i<count($arrM)-2;$i++)
72         {
73             $countr=$countr+1;
74             for($j=$awalan ; $j <= $awalan+6; $j++)
75             {
76                 $date=date("d-m-Y",strtotime($arrM[0]));
77                 if($cktg1!=" " and $cktg1!=$arrM[0] and $rata!=0 )
78                 {
79                     $tampung[] = round($rata2,2);
80                     $i=$i+1;
81                     $no=1;
82                     print "<r>
83                         <t>&ampnbsp</t>
84                         <t>HASIL</t>
85                         <t>".round($rata,2)."</t>
86                         <t>Rp. ".round($rata2,2)."</t>
87                         <t>Rp. ".round($rata,2)."</t>
88                         <t>Rp. ".round($jmlknh,2)."</t>
89                         <t>Rp. ".round($jmlharga,2)."</t>
90                         <t>Rp. ".round($stdknh,2)."</t>
91                         <t>Rp. ".round($stdharga,2)."</t>
92                     </r>";
93
94
95     $jumlahrata=$jumlahrata+$rata;

```

Figure 5.1.3 Open the database and specify the data input through the date

5.1.4 Step 4 – Calculating Percentage of Text Similarity

This coding is used to seek input date data in a way that has been split between the date of the month and year that already exists in the database txt. After searching the data through the last date we scored a table that contains a column of data that has been determined from the coding above earlier. After scoring table then we start counting results amount of electricity per day, the average daily usage, and standard deviation.



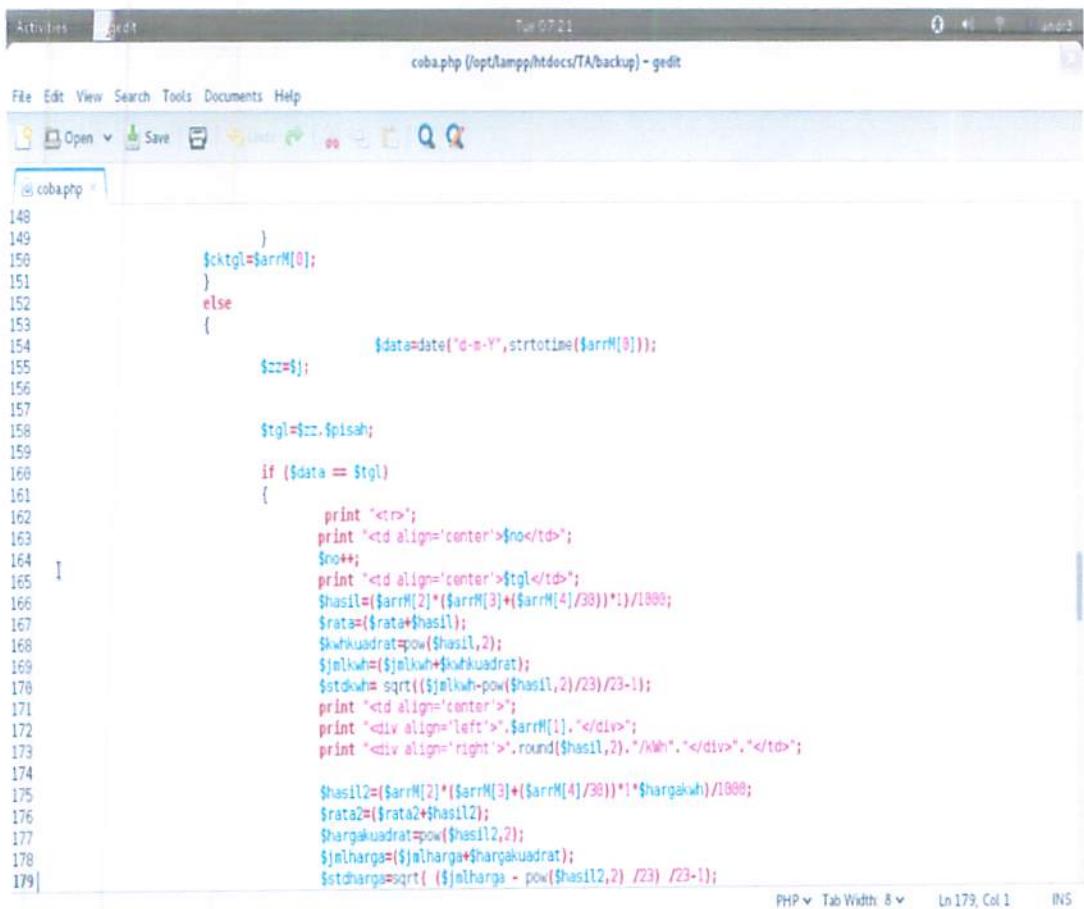
The screenshot shows a Gedit text editor window with the file 'coba.php' open. The code is a PHP script designed to calculate electricity usage statistics based on input data. The code includes logic to handle dates, calculate averages, and compute standard deviations. The editor interface shows the file path 'coba.php (/opt/lamppp/htdocs/TA/backup)' and various menu options like File, Edit, View, Search, Tools, Documents, Help. The status bar at the bottom indicates the file is in PHP mode, tab width is 8, and the current line is 141.

```
File Edit View Search Tools Documents Help
File Open Save Print Find Replace Go Back Go Forward Stop Refresh Home
coba.php (/opt/lamppp/htdocs/TA/backup) - gedit
Tue 07:21
110     if($j<10)
111     {
112         $data=date("d-m-Y",strtotime($arrM[0]));
113         $z=$j;
114         $zz="0".$z;
115
116         $tgl=$zz.$pisah;
117
118
119
120
121         if ($data == $tgl)
122         {
123             print "<tr>";
124             print "<td align='center'>$no</td>";
125             print "<td align='center'>$tgl</td>";
126             $no++;
127             $hasil=($arrM[2]*($arrM[3]+($arrM[4]/30)*1)/1000;
128             $rata=($rate+$hasil);
129             $wkkuadrat=pow($hasil,2);
130             $jmlkh=(($jmlkh+$wkkuadrat);
131             //stdkwh=sqrt( ($jmlkh - pow($hasil,2) /23) /23-1);
132             $stdkwh= sqrt((($jmlkh-pow($hasil,2)/23)/23-1);
133             print "<td align='center'>";
134             print "<div align='left'>". $arrM[1]. "</div>";
135             print "<div align='right'>".round($hasil,2). "</div>". "</td>";
136
137             $hasil2=($arrM[2]*($arrM[3]+($arrM[4]/30)*1*$hargaakwh)/1000;
138             $rata2=($rata+$hasil2);
139             $hargaakuarat=pow($hasil2,2);
140             $jmlharga=($jmlharga+$hargaakuarat);
141             $stdharga=sqrt( ($jmlharga - pow($hasil2,2) /23) /23-1);
```

Figure 5.1.4 Calculating Data

5.1.5 Step 5 – Check the data through the date

This coding function for sorting the data that will come out per day or to say we check the data through date, ie the date of our data the number 23 in the output at the date of going to print as many as 23 data and if we want to insert data in the database, the data will appear automatically in line with the date.



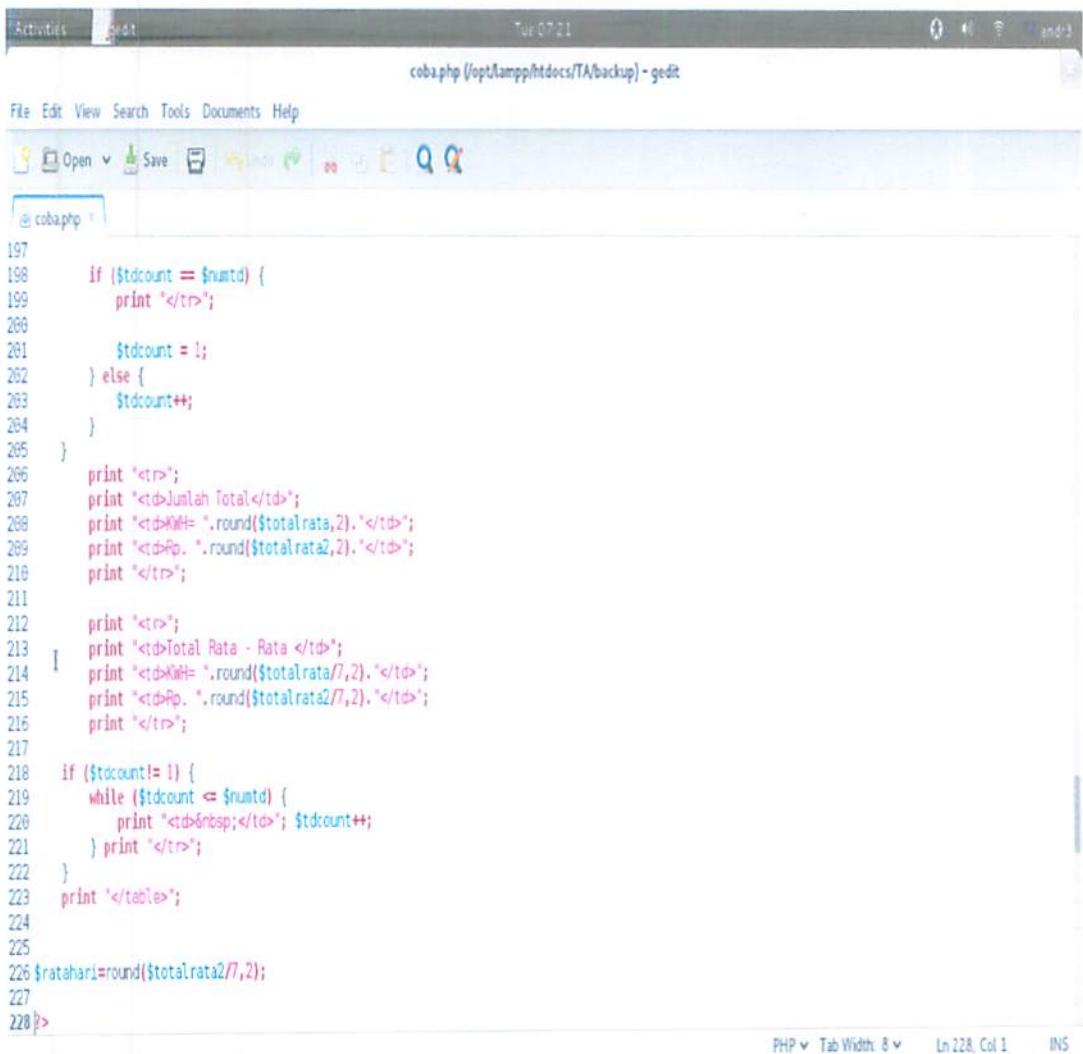
The screenshot shows a gedit text editor window with the file 'coba.php' open. The code is a PHP script designed to sort data by date. It includes calculations for area, rate, and standard deviation based on input arrays \$arrM. The code uses loops and conditional statements to process the data. The editor interface includes a toolbar with icons for Open, Save, Undo, Redo, and search functions. The status bar at the bottom shows 'PHP v Tab Width: 8 v Ln 179, Col 1 INS'.

```
148
149         }
150         $ktgl=$arrM[0];
151     }
152     else
153     {
154         $data=date("d-m-Y",strtotime($arrM[0]));
155         $zz=$;
156
157         $tg1=$zz.$pisah;
158
159         if ($data == $tg1)
160         {
161             print "<r>";
162             print "<td align='center'>$no</td>";
163             $no++;
164             print "<td align='center'>$tg1</td>";
165             $hasil=($arrM[2]*($arrM[3]+($arrM[4]/38))*1)/1000;
166             $rata=($rata+$hasil);
167             $kwhkuadrat=pow($hasil,2);
168             $jmlkwh=($jmlkwh+$kwhkuadrat);
169             $stdkwh=sqrt((($jmlkwh-pow($hasil,2)/23)/23-1));
170             print "<td align='center'>";
171             print "<div align='left'>".$arrM[1]."</div>";
172             print "<div align='right'>".round($hasil,2)."/kWh". "</div>". "</td>";
173
174             $hasil2=($arrM[2]*($arrM[3]+($arrM[4]/38))*1*$harga/kwh)/1000;
175             $rata2=($rata2+$hasil2);
176             $hargaakuarat=pow($hasil2,2);
177             $jmlharga=($jmlharga+$hargaakuarat);
178             $stdharga=sqrt((($jmlharga - pow($hasil2,2) /23) /23-1));
179         }
```

Figure 5.1.5 Check the data through the date

5.1.6 Step 6 – Print the final result

Print end table and print the results of the calculation results average per day and per day and the total amount per day.



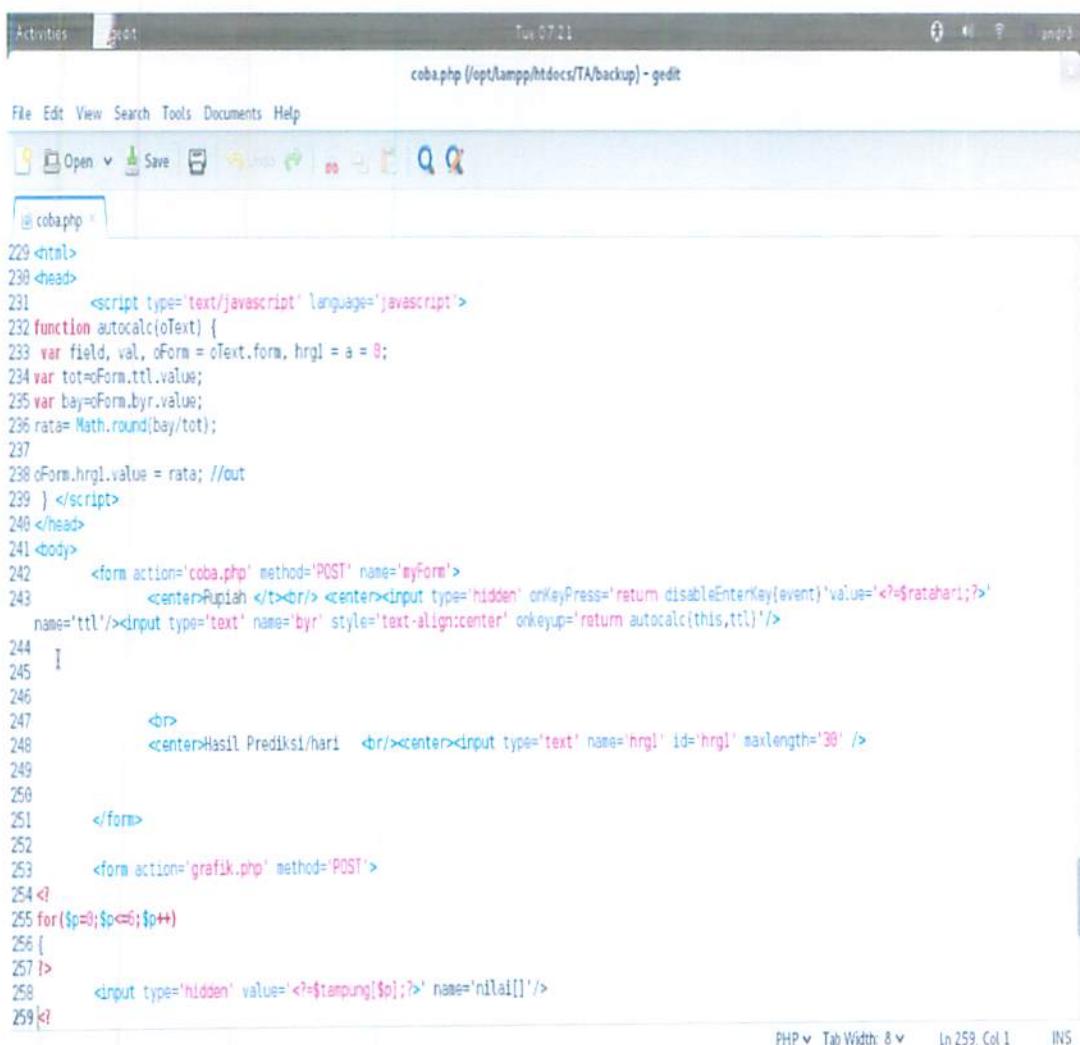
The screenshot shows a terminal window titled "gedit" running on a Linux desktop. The window contains PHP code for generating an HTML table. The code includes logic to calculate averages and totals for data across multiple days. The terminal window has a standard Linux interface with a title bar, menu bar, and status bar at the bottom.

```
197 if ($tdcount == $numtd) {
198     print "</tr>";
199
200     $tdcount = 1;
201 } else {
202     $tdcount++;
203 }
204
205 }
206 print "<tr>";
207 print "<td>Jumlah Total</td>";
208 print "<td>Rp. ".round($totalrata,2)."</td>";
209 print "<td>Rp. ".round($totalrata2,2)."</td>";
210 print "</tr>";
211
212 print "<tr>";
213 print "<td>Total Rata - Rata </td>";
214 print "<td>Rp. ".round($totalrata/7,2)."</td>";
215 print "<td>Rp. ".round($totalrata2/7,2)."</td>";
216 print "</tr>";
217
218 if ($tdcount!= 1) {
219     while ($tdcount <= $numtd) {
220         print "<td>&ampnbsp</td>"; $tdcount++;
221     } print "</tr>";
222 }
223 print '</table>';
224
225
226 $ratahari=round($totalrata2/7,2);
227
228 //>
```

Figure 5.1.6 Print the final result

5.1.7 Step 7 – Predictions

The following coding is used to calculate the predicted price in the form of dollars by determining a benchmark of the average daily electricity usage.



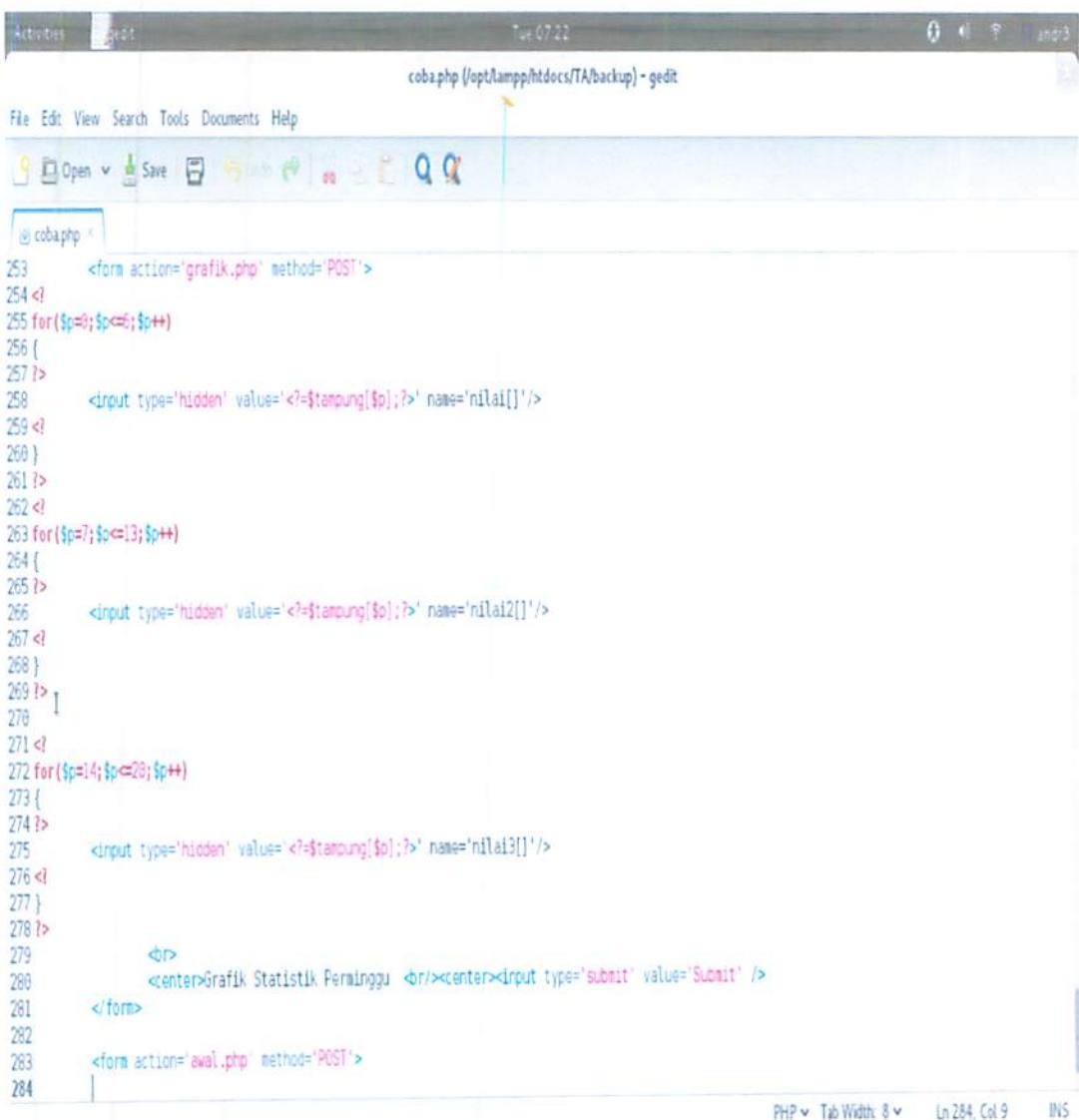
A screenshot of a Linux desktop environment showing a terminal window titled "gedit". The window contains PHP code for a prediction script. The code includes HTML for a form, JavaScript for calculating average daily electricity usage, and PHP for processing the form. The terminal window has a title bar with "gedit" and a status bar at the bottom showing "PHP v Tab Width: 8 v Ln 259, Col 1 INS".

```
Activities gedit Tue, 07.11.2012 cobap.php (/opt/lampp/htdocs/TA/backup) - gedit
File Edit View Search Tools Documents Help
Open Save Undo Redo Q Q
cobap.php
229 <html>
230 <head>
231     <script type='text/javascript' language='javascript'>
232 function autocalc(oText) {
233 var field, val, oForm = oText.form, hrg1 = a = 0;
234 var tot=oForm.ttl.value;
235 var bay=oForm.byr.value;
236 rata= Math.round(bay/tot);
237
238 oForm.hrg1.value = rata; //out
239 } </script>
240 </head>
241 <body>
242     <form action='coba.php' method='POST' name='myForm'>
243         <center><input type='hidden' onKeyPress='return disableEnterKey(event)' value='<?=$ratahari;?>' name='ttl' /><input type='text' name='byr' style='text-align:center' onkeyup='return autocalc(this,ttl)' />
244     I
245
246
247         <br>
248         <center>Hasil Prediksi/hari <br/><center><input type='text' name='hrg1' id='hrg1' maxlength='30' />
249
250
251     </form>
252
253     <form action='grafik.php' method='POST'>
254 <?
255 for($p=0;$p<6;$p++)
256 {
257 >
258     <input type='hidden' value='<?=$tampung[$p];?>' name='nilai[]' />
259 ?>
```

Figure 5.1.7 Predictions

5.1.8 Step 8 – Graph

Coding function below to see how it compares to the use of electrical pulses from week one to week through the other graphs that have been shown through the above calculation.



The screenshot shows a Gedit text editor window with the file 'coba.php' open. The code is a PHP script designed to generate a weekly pulse graph. It uses three nested loops to create hidden input fields for each day of the week. The first loop (lines 253-262) iterates from \$p=0 to \$p=6. The second loop (lines 263-272) iterates from \$p=7 to \$p=13. The third loop (lines 273-282) iterates from \$p=14 to \$p=20. Each loop adds a hidden input field with the value of \$tampung[\$p] to an array named 'nilai[]'. The code then outputs a center tag with a submit button labeled 'Submit'. Finally, it starts another form for 'awal.php'.

```
File Edit View Search Tools Documents Help
S Open Save F12 Q Q
@ coba.php
253     <form action='grafik.php' method='POST'>
254 <?
255 for($p=0;$p<6;$p++)
256 {
257 ?>
258     <input type='hidden' value='<?=$tampung[$p];?>' name='nilai[]' />
259 <?
260 }
261 ?>
262 <?
263 for($p=7;$p<13;$p++)
264 {
265 ?>
266     <input type='hidden' value='<?=$tampung[$p];?>' name='nilai2[]' />
267 <?
268 }
269 ?>
270 <?
271 <?
272 for($p=14;$p<20;$p++)
273 {
274 ?>
275     <input type='hidden' value='<?=$tampung[$p];?>' name='nilai3[]' />
276 <?
277 }
278 ?>
279     <br>
280     <center>Grafik Statistik Perminggu <br/><center><input type='submit' value='Submit' />
281 </form>
282
283 <form action='awal.php' method='POST'>
284 |
```

Figure 5.1.8 Graph

5.2 Interface

5.2.1 Main Menu Window

After enabling localhost ago we entered our browser, after that we can see how we can input the date of the month and year that we wanted. In addition we can also choose the type of power supply voltage that we use at home.



Input Tanggal

01-04-2014
450/kwh
Submit

Figure 5.2.1 Main Menu

Figure 5.2.2 Process Displayed in Browser

| No | TANGGAL | Aksi & Digras | HARGA | KWH -2 | HARGA -2 | sd kwh | sd HARGA |
|----|------------|---------------|----------|-----------|----------|--------------|----------|
| 1 | 01-04-2014 | Lampu1 | 0,02/Wlh | Rp. 0,24 | 0 | Rp. 40,21 | |
| 2 | 01-04-2014 | Lampu2 | 0,02/Wlh | Rp. 0,48 | 0,38 | Rp. 500,54 | |
| 3 | 01-04-2014 | Lampu3 | 0,02/Wlh | Rp. 0,252 | 0,27 | Rp. 451,33 | |
| 4 | 01-04-2014 | Lampu4 | 0,02/Wlh | Rp. 0,282 | 0,12 | Rp. 200,66 | |
| 5 | 01-04-2014 | Lampu5 | 0,02/Wlh | Rp. 0,242 | 0,28 | Rp. 461,74 | |
| 6 | 01-04-2014 | Lampu6 | 0,02/Wlh | Rp. 0,28 | 0,14 | Rp. 222,04 | |
| 7 | 01-04-2014 | Lampu7 | 0,02/Wlh | Rp. 0,265 | 0,24 | Rp. 575,02 | |
| 8 | 01-04-2014 | Lampu8 | 0,02/Wlh | Rp. 0,175 | 0,08 | Rp. 1354,08 | |
| 9 | 01-04-2014 | Lampu9 | 0,02/Wlh | Rp. 0,27 | 0,08 | Rp. 1118,27 | |
| 10 | 01-04-2014 | Lampu10 | 0,02/Wlh | Rp. 0,22 | 0,06 | Rp. 60,61 | |
| 11 | 01-04-2014 | Lampu11 | 0,02/Wlh | Rp. 0,257 | 0,05 | Rp. 1050,18 | |
| 12 | 01-04-2014 | Lampu12 | 0,02/Wlh | Rp. 0,165 | 0,08 | Rp. 13574,18 | |
| 13 | 01-04-2014 | Lampu13 | 0,02/Wlh | Rp. 0,110 | 0,07 | Rp. 12315,08 | |

After input the date and the type of electricity that we use so that we can look at the details of the form of the name of the tool and the watts used and unused money shown in the third week.

5.2.2 Result Window

5.2.3 Process Window

Once we look at our data and we can do the calculation predictions by filling the textbox with a nominal dollars that we want, when we input nominal dollars it will immediately appear in the form of the number of days predicted results.

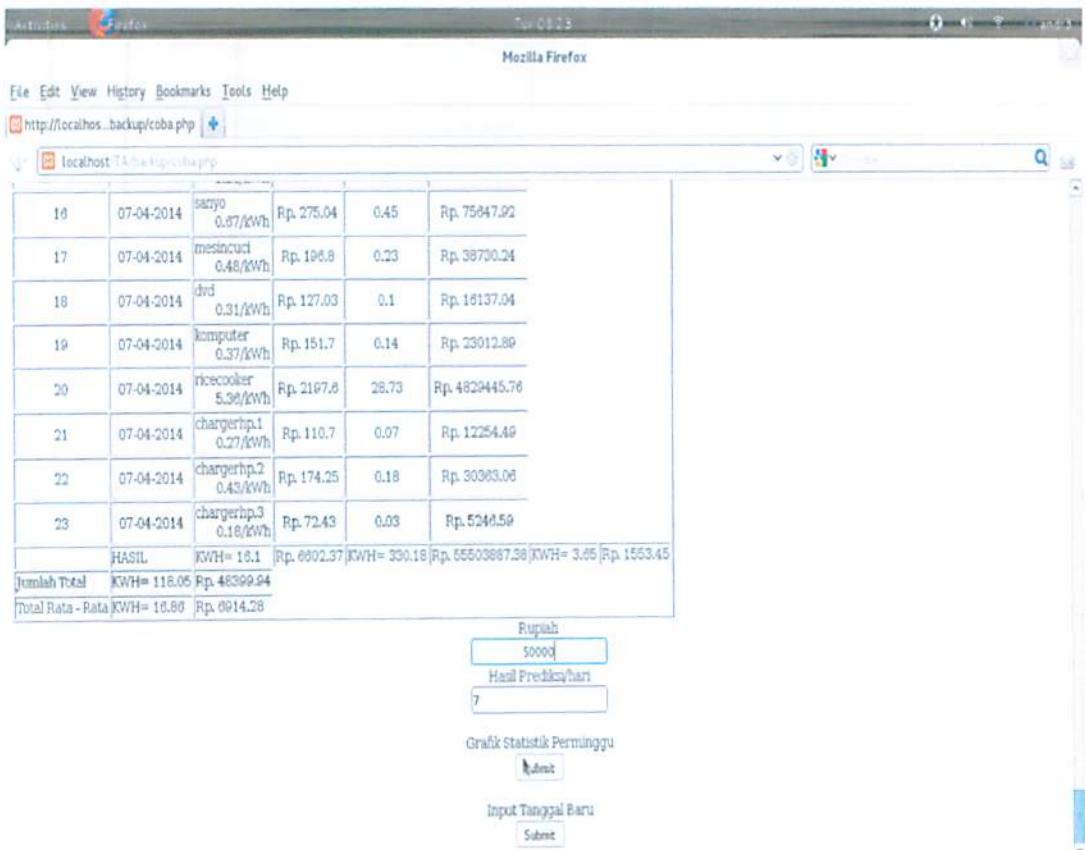


Figure 5.2.3 Process Prediction

5.2.4 Graph Window

Once we predict our electricity usage and then we submit the link graph and statistical graph will appear that will show the comparison of electricity consumption per week for three weeks.

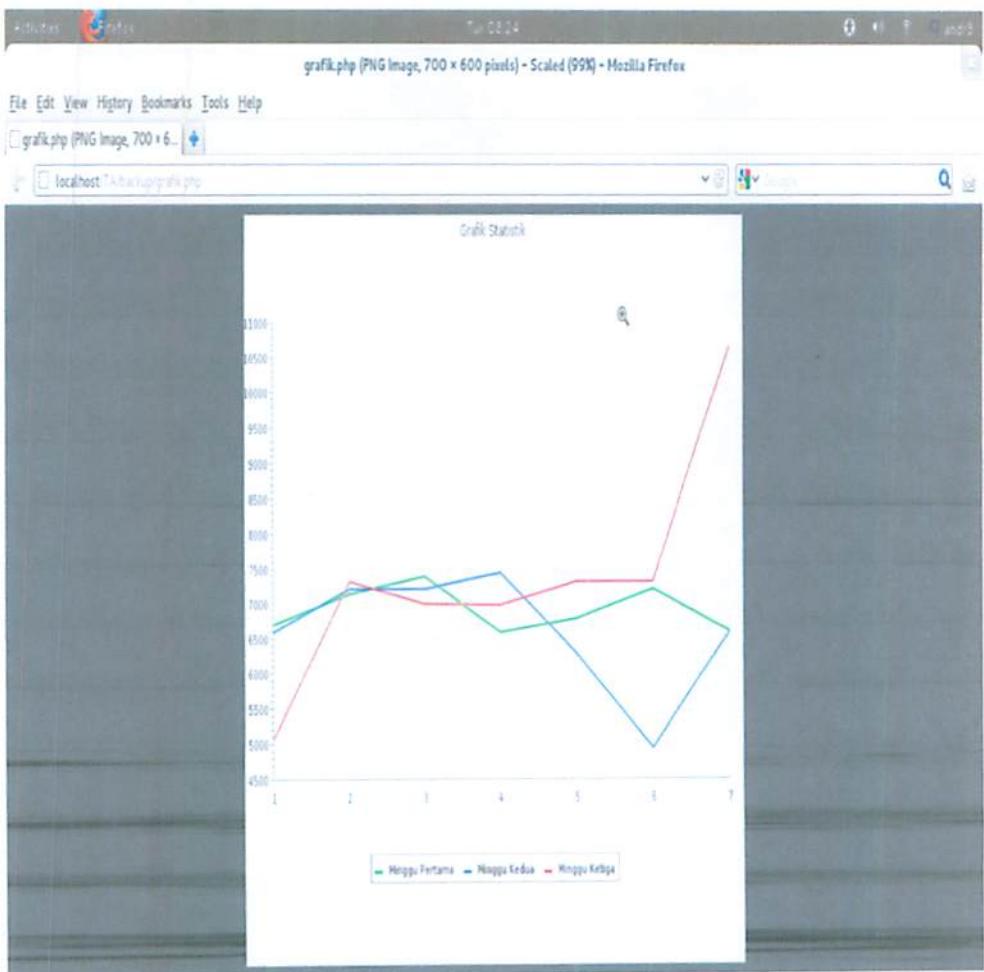


Figure 5.2.4 Process Displayed Graph

5.2.5 Main Menu Window

Once we predicted electricity usage and see the electricity usage comparison chart for three weeks, and if we want to look at different dates of our stay click the *Input New Date* and will return to the initial menu.



Input Tanggal

Figure 5.2.5 Back to Main menu