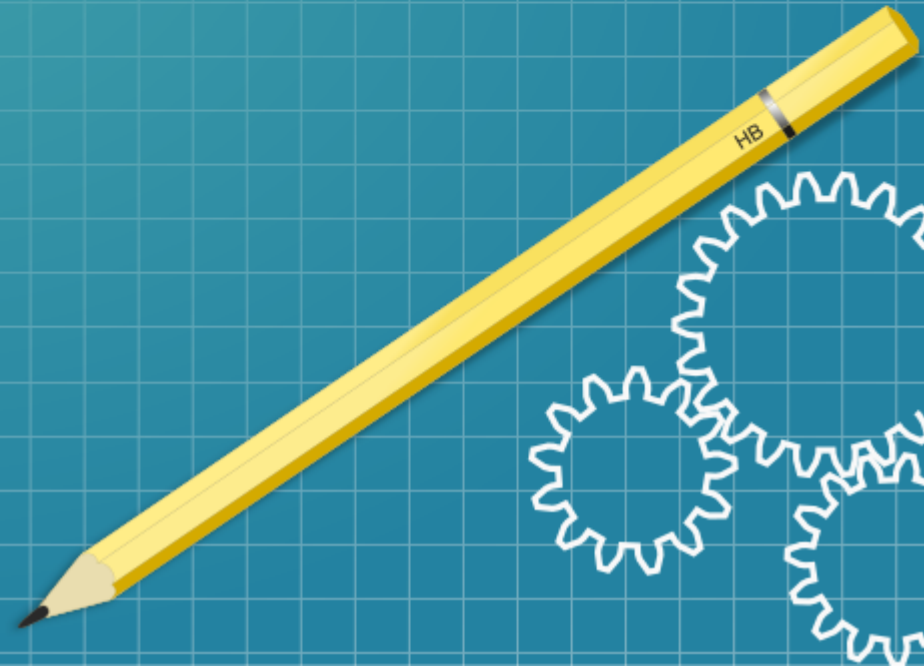
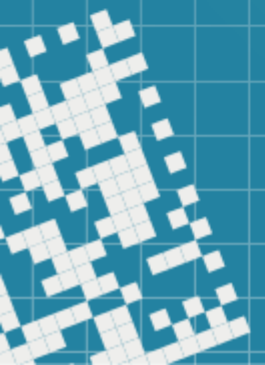
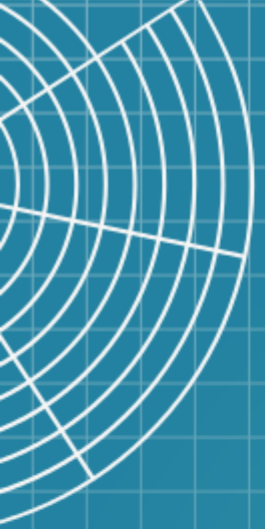



Homework 3



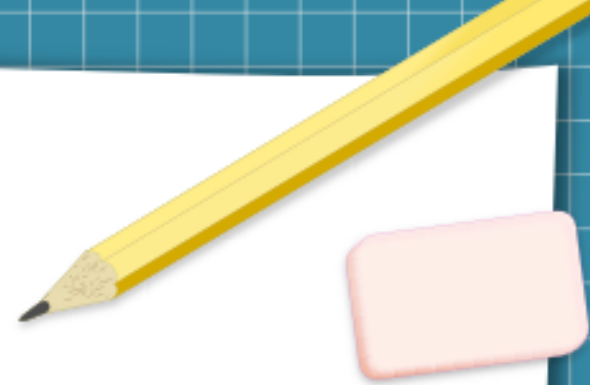
Script and output



```
Activities Terminal Thu 14:40
pragalbhv@Psyphoom: ~

File Edit View Search Terminal Help
#!/usr/bin/gawk -f
BEGIN{print "beginning..."; c=0;mecount=0;mmcount=0;cecount=0;freshies=0;seniors=0; FS=",";}
{c++; print $0;r=$1;n=$2;
  if(r ~ /^ME/) mecount++;
  if(r ~ /^MM/) mmcount++;
  if(r ~ /^CE/) cecount++;
  if(r ~ /^..19/) freshies++;
  if(r ~ /^..1[^9]/) seniors++;
  names[r]=n;
  email[r]=tolower(r) "@smaillitm.ac.in";
  group[r] = int(1+rand()*8);}
END{print c;
  print "...closing";
  print("Number of mech students: ", mecount);
  print("Number of meta students: ", mmcount);
  print("Number of civil students: ", cecount);
  print("Number of freshies: ", freshies);
  print("Number of seniors: ", seniors);
  print("-----");
  for (r in names)
    {print(r, " : ", names[r], " : ", email[r], " : ", group[r]);print("-----");print("Students in group 1 "
  );}
  for (r in email)
    if(group[r] == 1) print(r, " : ", names[r], " : ", email[r], " : ", group[r]);}
```

Output



```
Activities Terminal Thu 14:43
pragalbhv@Pspheom: ~
File Edit View Search Terminal Help
ME180809 : Sriharan BS : me180809@snail.iitm.ac.in : 2
ME190106 : Gowrishankar Manu : me190106@snail.iitm.ac.in : 8
ME190107 : Gunda Mahathi : me190107@snail.iitm.ac.in : 8
ME190121 : Kalisytharth SK : me190121@snail.iitm.ac.in : 7
ME190108 : Harsh Gupta : me190108@snail.iitm.ac.in : 4
ME190123 : Karthik Karunanchi : me190123@snail.iitm.ac.in : 3
MM190012 : Pragalbh Vashishtha : mm190012@snail.iitm.ac.in : 1
MM190014 : Vishnupriyan R : mm190014@snail.iitm.ac.in : 1
ME190128 : Srividya L : me190128@snail.iitm.ac.in : 2
ME180145 : Ashwin Kumar KS : me180145@snail.iitm.ac.in : 4
MM190015 : Jai Santhoshi S : mm190015@snail.iitm.ac.in : 2
ME180146 : Vikas Mahendar K : me180146@snail.iitm.ac.in : 2
MM190016 : Aakhyat Singh : mm190016@snail.iitm.ac.in : 4
MM190031 : Gayathri Shrushti V : mm190031@snail.iitm.ac.in : 4
MM190018 : Aditya Raj : mm190018@snail.iitm.ac.in : 6
MM190033 : Hrishabh Srivastava : mm190033@snail.iitm.ac.in : 3
ME190149 : Prasanth S : me190149@snail.iitm.ac.in : 6
ME190163 : Sarooa G : me190163@snail.iitm.ac.in : 2
MM190038 : Mahesh R : mm190038@snail.iitm.ac.in : 4
ME190167 : Shreyas Madhav Kulkarnt : me190167@snail.iitm.ac.in : 5
MM190054 : Shreya Snitha : mm190054@snail.iitm.ac.in : 1
ME190185 : Vedant Linaye : me190185@snail.iitm.ac.in : 3
-----
Students in group 1
ME190035 : Shreyas S. Paranjape : me190035@snail.iitm.ac.in : 1
ME190057 : Vasudeva Tushar Nilker : me190057@snail.iitm.ac.in : 1
ME190079 : Ananthalakshmi N : me190079@snail.iitm.ac.in : 1
MM190005 : Bipin V : mm190005@snail.iitm.ac.in : 1
MM190043 : Hardhik Pinjala : mm190043@snail.iitm.ac.in : 1
ME190159 : Sachin Sagar : me190159@snail.iitm.ac.in : 1
MM190049 : Rohan Korale : mm190049@snail.iitm.ac.in : 1
ME190176 : Subham Khan : me190176@snail.iitm.ac.in : 1
ME190060 : Vishalroshan A : me190060@snail.iitm.ac.in : 1
ME190063 : Aditi Kumar : me190063@snail.iitm.ac.in : 1
MM190012 : Pragalbh Vashishtha : mm190012@snail.iitm.ac.in : 1
MM190014 : Vishnupriyan R : mm190014@snail.iitm.ac.in : 1
MM190054 : Shreya Snitha : mm190054@snail.iitm.ac.in : 1
pragalbhv@Pspheom: ~$
```

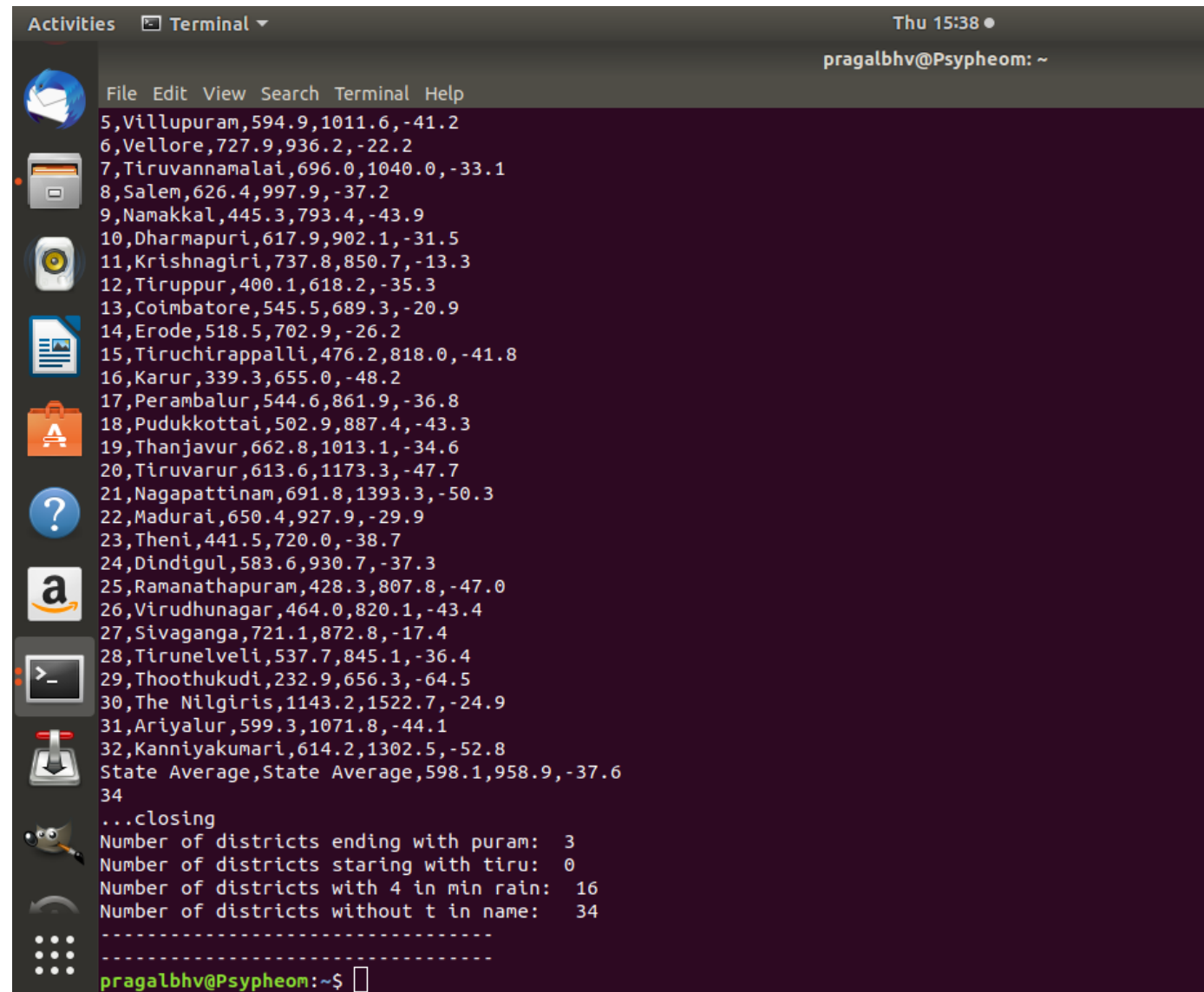
```
Activities Terminal Thu 14:43
pragalbhv@Pspheom: ~
File Edit View Search Terminal Help
ME180809 : Sriharan BS : me180809@snail.iitm.ac.in : 2
ME190106 : Gowrishankar Manu : me190106@snail.iitm.ac.in : 8
ME190107 : Gunda Mahathi : me190107@snail.iitm.ac.in : 8
ME190121 : Kalisytharth SK : me190121@snail.iitm.ac.in : 7
ME190108 : Harsh Gupta : me190108@snail.iitm.ac.in : 4
ME190123 : Karthik Karunanchi : me190123@snail.iitm.ac.in : 3
MM190012 : Pragalbh Vashishtha : mm190012@snail.iitm.ac.in : 1
MM190014 : Vishnupriyan R : mm190014@snail.iitm.ac.in : 1
ME190128 : Srividya L : me190128@snail.iitm.ac.in : 2
ME180145 : Ashwin Kumar KS : me180145@snail.iitm.ac.in : 4
MM190015 : Jai Santhoshi S : mm190015@snail.iitm.ac.in : 2
ME180146 : Vikas Mahendar K : me180146@snail.iitm.ac.in : 2
MM190016 : Aakhyat Singh : mm190016@snail.iitm.ac.in : 4
MM190031 : Gayathri Shrushti V : mm190031@snail.iitm.ac.in : 4
MM190018 : Aditya Raj : mm190018@snail.iitm.ac.in : 6
MM190033 : Hrishabh Srivastava : mm190033@snail.iitm.ac.in : 3
ME190149 : Prasanth S : me190149@snail.iitm.ac.in : 6
ME190163 : Sarooa G : me190163@snail.iitm.ac.in : 2
MM190038 : Mahesh R : mm190038@snail.iitm.ac.in : 4
ME190167 : Shreyas Madhav Kulkarnt : me190167@snail.iitm.ac.in : 5
MM190054 : Shreya Snitha : mm190054@snail.iitm.ac.in : 1
ME190185 : Vedant Linaye : me190185@snail.iitm.ac.in : 3
-----
Students in group 1
ME190035 : Shreyas S. Paranjape : me190035@snail.iitm.ac.in : 1
ME190057 : Vasudeva Tushar Nilker : me190057@snail.iitm.ac.in : 1
ME190079 : Ananthalakshmi N : me190079@snail.iitm.ac.in : 1
MM190005 : Bipin V : mm190005@snail.iitm.ac.in : 1
MM190043 : Hardhik Pinjala : mm190043@snail.iitm.ac.in : 1
ME190159 : Sachin Sagar : me190159@snail.iitm.ac.in : 1
MM190049 : Rohan Korale : mm190049@snail.iitm.ac.in : 1
ME190176 : Subham Khan : me190176@snail.iitm.ac.in : 1
ME190060 : Vishalroshan A : me190060@snail.iitm.ac.in : 1
ME190063 : Aditi Kumar : me190063@snail.iitm.ac.in : 1
MM190012 : Pragalbh Vashishtha : mm190012@snail.iitm.ac.in : 1
MM190014 : Vishnupriyan R : mm190014@snail.iitm.ac.in : 1
MM190054 : Shreya Snitha : mm190054@snail.iitm.ac.in : 1
pragalbhv@Pspheom: ~$
```

standing of
es of awk.

```
pragalbhv@Pspheom: ~  
File Edit View Search Terminal Help  
#!/usr/bin/gawk -f  
BEGIN{  
    print "beginning...";  
    c=0;  
    puramcount=0;  
    tirucount=0;  
    fourcount=0;  
    nottcoun=0;  
    FS=",";}  
{c++; print $0;r=$2;n=$3;k=$4;  
    if(r ~ /puram$/) puramcount++;  
    if(r ~ /^tiru/) tirucount++;  
    if(n ~ /4+/) fourcount++;  
    if(n~ /^[^t]/) nottcoun++;  
    rainmin[r]=n;  
    rainmax[r]=k;  
    raendiff[r]=n-k ;}  
END{print c;  
    print "...closing";  
    print("Number of districts ending with puram: ", puramcount);  
    print("Number of districts starting with tiru: ", tirucount);  
    print("Number of districts with 4 in min rain: ", fourcount);  
    print("Number of districts without t in name: ",nottcoun);  
    print("-----");  
for (r in names)  
    {print(r, " : ", rainmin[r], " : ", rainmax[r], " : ", raendif  
f[r]);}print("-----");}  
  
-- INSERT --      23,67      All
```

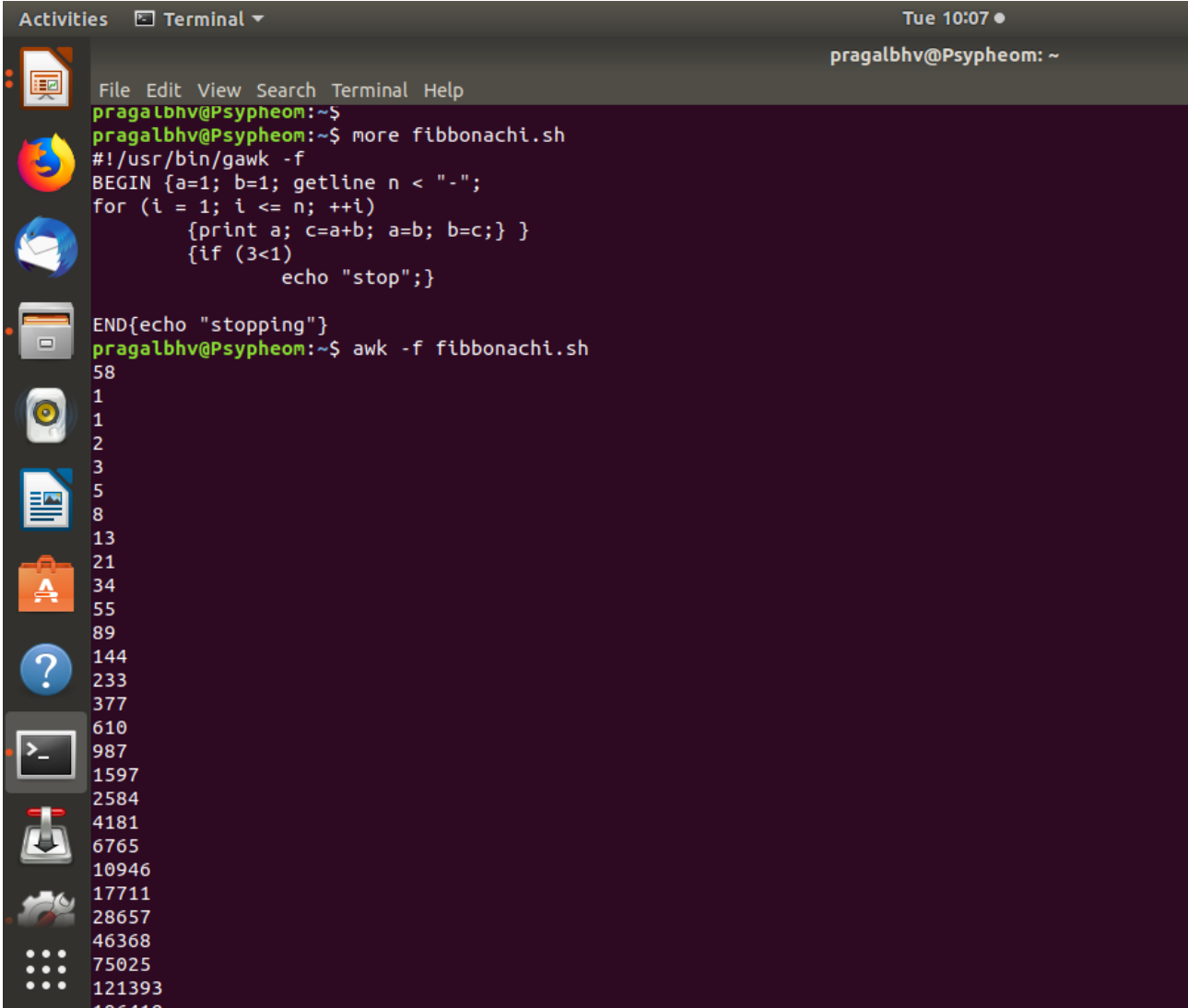
```
pragalbhv@Pspheom: ~/Junk/AWK  
File Edit View Search Terminal Help  
1,Chennai,844.3,1324.2,-36.2  
2,Kancheepuram,847.6,1227.7,-31.0  
3,Tiruvallur,675.7,1139.6,-40.7  
4,Cuddalore,614.1,1206.7,-49.1  
5,Villupuram,594.9,1011.6,-41.2  
6,Vellore,727.9,936.2,-22.2  
7,Tiruvannamalai,696.0,1040.0,-33.1  
8,Salem,626.4,997.9,-37.2  
9,Namakkal,445.3,793.4,-43.9  
10,Dharmapuri,617.9,902.1,-31.5  
11,Krishnagiri,737.8,850.7,-13.3  
12,Tiruppur,400.1,618.2,-35.3  
13,Coimbatore,545.5,689.3,-20.9  
14,Erode,518.5,702.9,-26.2  
15,Tiruchirappalli,476.2,818.0,-41.8  
16,Karur,339.3,655.0,-48.2  
17,Perambalur,544.6,861.9,-36.8  
18,Pudukkottai,502.9,887.4,-43.3  
19,Thanjavur,662.8,1013.1,-34.6  
20,Tiruvarur,613.6,1173.3,-47.7  
21,Nagapattinam,691.8,1393.3,-50.3  
22,Madurai,650.4,927.9,-29.9  
23,Theni,441.5,720.0,-38.7  
24,Dindigul,583.6,930.7,-37.3  
25,Ramanathapuram,428.3,807.8,-47.0  
26,Virudhunagar,464.0,820.1,-43.4  
27,Sivaganga,721.1,872.8,-17.4  
28,Tirunelveli,537.7,845.1,-36.4  
29,Thoothukudi,232.9,656.3,-64.5  
30,The Nilgiris,1143.2,1522.7,-24.9  
31,Ariyalur,599.3,1071.8,-44.1  
32,Kanniyakumari,614.2,1302.5,-52.8  
00,State Average,598.1,958.9,-37.6  
  
-- INSERT --      33,3      All
```

Output of code and data in prev. slide



```
Activities Terminal Thu 15:38 ●
pragalbhv@Pyspheom: ~
File Edit View Search Terminal Help
5,Villupuram,594.9,1011.6,-41.2
6,Vellore,727.9,936.2,-22.2
7,Tiruvannamalai,696.0,1040.0,-33.1
8,Salem,626.4,997.9,-37.2
9,Namakkal,445.3,793.4,-43.9
10,Dharmapuri,617.9,902.1,-31.5
11,Krishnagiri,737.8,850.7,-13.3
12,Tiruppur,400.1,618.2,-35.3
13,Coimbatore,545.5,689.3,-20.9
14,Erode,518.5,702.9,-26.2
15,Tiruchirappalli,476.2,818.0,-41.8
16,Karur,339.3,655.0,-48.2
17,Perambalur,544.6,861.9,-36.8
18,Pudukkottai,502.9,887.4,-43.3
19,Thanjavur,662.8,1013.1,-34.6
20,Tiruvavur,613.6,1173.3,-47.7
21,Nagapattinam,691.8,1393.3,-50.3
22,Madurai,650.4,927.9,-29.9
23,Theni,441.5,720.0,-38.7
24,Dindigul,583.6,930.7,-37.3
25,Ramanathapuram,428.3,807.8,-47.0
26,Virudhunagar,464.0,820.1,-43.4
27,Sivaganga,721.1,872.8,-17.4
28,Tirunelveli,537.7,845.1,-36.4
29,Thoothukudi,232.9,656.3,-64.5
30,The Nilgiris,1143.2,1522.7,-24.9
31,Ariyalur,599.3,1071.8,-44.1
32,Kanniyakumari,614.2,1302.5,-52.8
State Average,State Average,598.1,958.9,-37.6
34
...closing
Number of districts ending with puram: 3
Number of districts starting with tiru: 0
Number of districts with 4 in min rain: 16
Number of districts without t in name: 34
-----
pragalbhv@Pyspheom:~$
```

Fibbonachi seq



The image shows a terminal window titled "Terminal" with a dark background. The user "pragalbhv@Pyspheim" is at the prompt. They first use the "more" command to view the contents of "fibbonachi.sh". The script is a gawk program that calculates the Fibonacci sequence up to the 30th term. After running the script with "awk -f fibbonachi.sh", the terminal displays the sequence of numbers from 1 to 106410.

```
pragalbhv@Pyspheim:~$ more fibbonachi.sh
#!/usr/bin/gawk -f
BEGIN {a=1; b=1; getline n < "-";
for (i = 1; i <= n; ++i)
    {print a; c=a+b; a=b; b=c;} }
    {if (3<1)
        echo "stop";}

END{echo "stopping"}
pragalbhv@Pyspheim:~$ awk -f fibbonachi.sh
58
1
1
2
3
5
8
13
21
34
55
89
144
233
377
610
987
1597
2584
4181
6765
10946
17711
28657
46368
75025
121393
106410
```