```
1    /* region: Generated preamble */
2    /* Make sure the current directory is writable */
3    data _null_;
4        length rc 4;
5        %let tworkloc="%sysfunc(getoption(work))";
6        rc=dlgcdir(&tworkloc);
7    run;
```
NOTE: The current working directory is now
      "/opt/sas/viya/config/var/tmp/compsrv/default/87297e90-d744-4d80-b208-72d0f9efee42/SAS_work54F200000213_sas-compute-server-1d8
      25208-4f76-462f-9429-e814e20c5921-47836".
NOTE: DATA statement used (Total process time):
      real time   0.00 seconds
      cpu time   0.00 seconds

```
8
9    /* Setup options */
10   title;
11   footnote;
12   options validvarname=any;
13   options validmemname=extend;
14   options dtreset date number;
15   options device=png;
16
17   /* Setup macro variables */
18   %let syscc=0;
19   %let _clientapp = %nrquote(%nrstr(SAS Studio));
20   %let _clientappabbrev = %nrquote(%nrstr(Studio));
21   %let _clientappversion=2025.03;
22   %let _clientversion=;
23   %let _sasservername=&SYSHOSTNAME;
24   %let _sashostname=&SYSHOSTNAME;
25   %let _sasprogramfilehost=&SYSHOSTNAME;
26   %let _clientuserid = %nrquote(%nrstr(22004759@siswa.um.edu.my));
27   %let _clientusername = %nrquote(%nrstr(22004759@siswa.um.edu.my));
28   %let clientmachine = %nrquote(%nrstr());
29   %let _clientmachine = %nrquote(%nrstr());
30   %let _clientmode = %nrquote(%nrstr(viya));
31   %let sasworklocation="%sysfunc(getoption(work))/";
32   filename _cwd &sasworklocation;
33   data _null_;
34       call symput('_sasworkingdir',pathname('_cwd'));
35   run;
```
NOTE: DATA statement used (Total process time):
      real time   0.00 seconds
      cpu time   0.00 seconds

```
36   filename _cwd;
```
NOTE: Fileref _CWD has been deassigned.
```
37   %let _sasprogramfile = %nrquote(%nrstr());
38   %let _baseurl = %nrquote(%nrstr(https://vfl-023.engage.sas.com/SASStudio/));
39   %let _execenv = %nrquote(%nrstr(SASStudio));
40   %symdel _dataout_mime_type _dataout_name _dataout_url _dataout_table / nowarn;
41   %let _sasws_ = %bquote(%sysfunc(getoption(work)));
42   %let _saswstemp_ = %bquote(%sysfunc(getoption(work)));
43
44   /* Detect SAS/Graph and setup graph options */
45   data _null_;
46       length rc $255;
47       call symput("graphinit","");
48       call symput("graphterm","");
49       rc=tslvl('sasxgopt','n');
50       _error_=0;
51       if (rc^=' ') then do;
52           call symput("graphinit","goptions reset=all gsfname=_gsfname;");
53           call symput("graphterm","goptions noaccessible;");
54       end;
55   run;
```
NOTE: DATA statement used (Total process time):
      real time   0.00 seconds
      cpu time   0.00 seconds

```
56   data _null_;
57       length rc 4;
58       rc=sysprod("PRODNUM002");
59       if (rc^=1) then do;
60           call symput("graphinit","");
61           call symput("graphterm","");
62       end;
63   run;
```
NOTE: DATA statement used (Total process time):
      real time   0.00 seconds
      cpu time   0.00 seconds

```
64
65   /* Setup ODS destinations */
66   ods _all_ close;
67   %studio_results_directory;
68   filename _htmlout "&_results_prefix_..html";
69   filename _listout "&_results_prefix_..lst";
70   filename _gsfname temp;
71   filename _dataout "&_results_prefix_..dat";
72   ods autonavigate off;
73   ods graphics on;
74   ods html5 (id=web) METATEXT='http-equiv="Content-Security-Policy" content="default-src ''none''; style-src ''unsafe-inline'';
74 ! img-src data: ;"' device=png gpath="&_saswstemp_" path="&_saswstemp_" encoding=utf8 file=_htmlout (title='Results:SAS Program
74 ! 1.sas') style=Illuminate options(bitmap_mode='inline' outline='on' svg_mode='inline' css_prefix=".ods_&SYS_COMPUTE_JOB_ID"
74 ! body_id="div_&SYS_COMPUTE_JOB_ID" );
```
NOTE: Writing HTML5(WEB) Body file: _HTMLOUT
```
75   ods listing file=_listout;
76   &graphinit;
```

```
77    %studio_initialize_custom_output;
78    /* endregion */
79
80    /* Generated Code (IMPORT) */
81    /* Source File: covid_clean.csv */
82    /* Source Path: /Users/22004759@siswa.um.edu.my/My Folder/covid_clean.csv */
83    /* Code generated on: Tuesday, 16 December 2025, 10:23:01 */
84
85    proc sql;
86    %if %sysfunc(exist(WORK.IMPORT1)) %then %do;
87        drop table WORK.IMPORT1;
NOTE: Table WORK.IMPORT1 has been dropped.
88    %end;
89    %if %sysfunc(exist(WORK.IMPORT1,VIEW)) %then %do;
90        drop view WORK.IMPORT1;
91    %end;
92    quit;
NOTE: PROCEDURE SQL used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds


93
94
95
96    FILENAME REFFILE FILESRVC FOLDERPATH='/Users/22004759@siswa.um.edu.my/My Folder'  FILENAME='covid_clean.csv';
97
98    PROC IMPORT DATAFILE=REFFILE
99    DBMS=CSV
100   OUT=WORK.IMPORT1;
101   GETNAMES=YES;
102   RUN;
NOTE: Unable to open parameter catalog: SASUSER.PARMS.PARMS.SLIST in update mode. Temporary parameter values will be saved to
WORK.PARMS.PARMS.SLIST.
103    /***********************************************************************
104   *    PRODUCT:    SAS
105   *    VERSION:    V.04.00
106   *    CREATOR:    External File Interface
107   *    DATE:       16DEC25
108   *    DESC:       Generated SAS Datastep Code
109   *    TEMPLATE SOURCE:  (None Specified.)
110   ***********************************************************************/
111      data WORK.IMPORT1    ;
112      %let _EFIERR_ = 0; /* set the ERROR detection macro variable */
113      infile REFFILE delimiter = ',' MISSOVER DSD lrecl=32767 firstobs=2 ;
114         informat date yymmdd10. ;
115         informat state $8. ;
116         informat cases_new best32. ;
117         informat cases_import best32. ;
118         informat cases_recovered best32. ;
119         informat cases_active best32. ;
120         informat cases_cluster best32. ;
121         informat year best32. ;
122         informat sporadic_cases best32. ;
123         format date yymmdd10. ;
124         format state $8. ;
125         format cases_new best12. ;
126         format cases_import best12. ;
127         format cases_recovered best12. ;
128         format cases_active best12. ;
129         format cases_cluster best12. ;
130         format year best12. ;
131         format sporadic_cases best12. ;
132      input
133                date
134                state  $
135                cases_new
136                cases_import
137                cases_recovered
138                cases_active
139                cases_cluster
140                year
141                sporadic_cases
142      ;
143      if _ERROR_ then call symputx('_EFIERR_',1);  /* set ERROR detection macro variable */
144      run;
NOTE: The infile REFFILE is:
      Filename=covid_clean.csv,
      URI path=/files/files/6645bdb9-dfa7-43ba-b65c-ec9433191fdf,
      File Identifier=6645bdb9-dfa7-43ba-b65c-ec9433191fdf,
      Content Type=text/csv,Encoding=UTF-8,
      Searchable=false,RECFM=V,LRECL=32767,
      File Size (bytes)=768748,
      Last Modified=16 December 2025 10:21:53,
      Create Time=16 December 2025 10:21:52
NOTE: 18224 records were read from the infile REFFILE.
      The minimum record length was 33.
      The maximum record length was 57.
NOTE: The data set WORK.IMPORT1 has 18224 observations and 9 variables.
NOTE: DATA statement used (Total process time):
      real time           0.24 seconds
      cpu time            0.06 seconds


18224 rows created in WORK.IMPORT1 from REFFILE.



NOTE: WORK.IMPORT1 data set was successfully created.
NOTE: The data set WORK.IMPORT1 has 18224 observations and 9 variables.
NOTE: PROCEDURE IMPORT used (Total process time):
      real time           0.70 seconds
      cpu time            0.15 seconds
```

```
145
146   PROC CONTENTS DATA=WORK.IMPORT1; RUN;
NOTE: PROCEDURE CONTENTS used (Total process time):
        real time            0.02 seconds
        cpu time             0.02 seconds

NOTE: The PROCEDURE CONTENTS printed page 9.
147
148
149   PROC SQL;
150       CREATE TABLE daily_trends AS
151       SELECT date,
152             SUM(cases_cluster) AS cluster_cases,
153             SUM(sporadic_cases) AS sporadic_cases
154       FROM covid_clean
155       WHERE state NE "Malaysia"
156       GROUP BY date;
NOTE: Table WORK.DAILY_TRENDS created, with 1072 rows and 3 columns.
157   QUIT;
NOTE: PROCEDURE SQL used (Total process time):
        real time            0.00 seconds
        cpu time             0.00 seconds

158
159   PROC SGPLOT DATA=daily_trends;
160       SERIES X=date Y=cluster_cases / LINEATTRS=(THICKNESS=2);
161       SERIES X=date Y=sporadic_cases / LINEATTRS=(THICKNESS=2);
162       YAXIS TYPE=LOG LOGBASE=10 LABEL="Daily Cases (Log Scale)";
163       TITLE "Cluster vs Sporadic COVID-19 Cases Over Time (Excluding Malaysia)";
164   RUN;
NOTE: PROCEDURE SGPLOT used (Total process time):
        real time            0.14 seconds
        cpu time             0.07 seconds

NOTE: The log axis cannot support zero or negative values for the axis from plot data or due to default or assigned
      BASELINEINTERCEPT value. The axis type will be changed to LINEAR.
NOTE: The column format YYMMDD10 is replaced by an auto-generated format on the axis.
NOTE: The log axis cannot support zero or negative values for the axis from plot data or due to default or assigned
      BASELINEINTERCEPT value. The axis type will be changed to LINEAR.
NOTE: The column format YYMMDD10 is replaced by an auto-generated format on the axis.
NOTE: Listing image output written to
      /opt/sas/viya/config/var/tmp/compsrv/default/87297e90-d744-4d80-b208-72d0f9efee42/SAS_work54F200000213_sas-compute-server-1d82
      5208-4f76-462f-9429-e814e20c5921-47836/SGPlot9.png.
NOTE: There were 1072 observations read from the data set WORK.DAILY_TRENDS.
165
166
167   PROC SQL;
168       CREATE TABLE daily_share AS
169       SELECT date,
170             SUM(cases_cluster) AS cluster_cases,
171             SUM(sporadic_cases) AS sporadic_cases,
172             SUM(cases_cluster + sporadic_cases) AS total_cases
173       FROM covid_clean
174       WHERE state NE "Malaysia"
175       GROUP BY date;
NOTE: Table WORK.DAILY_SHARE created, with 1072 rows and 4 columns.
176   QUIT;
NOTE: PROCEDURE SQL used (Total process time):
        real time            0.01 seconds
        cpu time             0.02 seconds

177
178   DATA daily_share;
179       SET daily_share;
180       pct_cluster = cluster_cases / total_cases;
181       pct_sporadic = sporadic_cases / total_cases;
182   RUN;
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-01-26 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=2
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-01-27 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=3
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-01-28 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=4
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-01-31 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=7
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-02-01 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=8
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-02-02 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=9
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-02-03 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=10
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-02-11 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=18
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-02-12 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=19
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-02-13 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=20
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-02-16 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=23
```

```
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-02-17 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=24
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-02-18 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=25
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-02-19 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=26
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-02-20 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=27
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-02-21 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=28
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-02-22 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=29
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-02-23 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=30
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
date=2020-02-24 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=31
NOTE: Division by zero detected at line 180 column 33.
NOTE: Division by zero detected at line 181 column 35.
WARNING: Limit set by ERRORS= option reached.  Further errors of this type will not be printed.
date=2020-02-25 cluster_cases=0 sporadic_cases=0 total_cases=0 pct_cluster=. pct_sporadic=. _ERROR_=1 _N_=32
NOTE: Mathematical operations could not be performed at the following places. The results of the operations have been set to
      missing values.
      Each place is given by: (Number of times) at (Line):(Column).
      23 at 180:33    23 at 181:35
NOTE: There were 1072 observations read from the data set WORK.DAILY_SHARE.
NOTE: The data set WORK.DAILY_SHARE has 1072 observations and 6 variables.
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      cpu time            0.01 seconds

183
184  PROC SGPLOT DATA=daily_share;
185      AREA X=date Y=pct_cluster / LEGENDLABEL="Cluster Cases";
             ----
             180
186      AREA X=date Y=pct_sporadic / LEGENDLABEL="Sporadic Cases";
             ----
             180
ERROR 180-322: Statement is not valid or it is used out of proper order.
187      YAXIS LABEL="Proportion of Daily Cases" VALUES=(0 TO 1 BY 0.2);
188      TITLE "Proportion of Cluster vs Sporadic COVID-19 Cases Over Time (Excluding Malaysia)";
189  RUN;
NOTE: The SAS System stopped processing this step because of errors.
NOTE: PROCEDURE SGPLOT used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds

190
191
192  PROC SQL;
193      CREATE TABLE state_totals AS
194      SELECT state,
195          SUM(sporadic_cases) AS total_sporadic
196      FROM covid_clean
197      WHERE state NE "Malaysia"
198      GROUP BY state
199      ORDER BY total_sporadic DESC;
NOTE: Table WORK.STATE_TOTALS created, with 16 rows and 2 columns.
200  QUIT;
NOTE: PROCEDURE SQL used (Total process time):
      real time           0.00 seconds
      cpu time            0.01 seconds

201
202  DATA top5_states;
203      SET state_totals (OBS=5);
204  RUN;
NOTE: There were 5 observations read from the data set WORK.STATE_TOTALS.
NOTE: The data set WORK.TOP5_STATES has 5 observations and 2 variables.
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds

205
206  PROC SGPLOT DATA=top5_states;
207      VBAR state / RESPONSE=total_sporadic;
208      YAXIS LABEL="Total Sporadic Cases (2020-2022)";
209      TITLE "Top 5 States by Total Sporadic COVID-19 Cases (Excluding Malaysia)";
210  RUN;
NOTE: PROCEDURE SGPLOT used (Total process time):
      real time           0.10 seconds
      cpu time            0.04 seconds

NOTE: Listing image output written to
      /opt/sas/viya/config/var/tmp/compsrv/default/87297e90-d744-4d80-b208-72d0f9efee42/SAS_work54F200000213_sas-compute-server-1d82
      5208-4f76-462f-9429-e814e20c5921-47836/SGPlot10.png.
NOTE: There were 5 observations read from the data set WORK.TOP5_STATES.
211
212
213  /* region: Generated postamble */
214  /* Close ODS destinations */
215  &graphterm; ;*';*";*/;run;quit;
216  quit;run;
```

```
217  ods html5 (id=web) close;
218  ods listing close;
219  %if %sysfunc(fileref(_gsfname)) lt 0 %then %do;
220     filename _gsfname clear;
NOTE: Fileref _GSFNAME has been deassigned.
221  %end;
222  %studio_capture_custom_output;
223  /* endregion */
224
```