

A SAS PROGRAM TO GRAPHICALLY SCHEDULE THE TASKS
ASSIGNED TO EACH EMPLOYEE

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A SAS program was written to schedule tasks for a quarterly report. A group of SAS macros is run for each employee. Each employee has an available hours card with 12 values. Each value represents the number of hours that employee is available to work in each period. Fixed commitment cards such as vacation and conferences, subtract from the amount of hours available in each period. A group of tasks is inputted, each has an estimated hours field and a priority. Each task can be dependent on another task to finish before it. The highest priority task is scheduled for the first period. If it can be completed in the period the second highest priority task is scheduled next. The program schedules each task into a period filling up the available hours.

A graphical representation is produced showing the 12 periods and the tasks scheduled for each period. The program is useful for showing the effect on all tasks when priorities are changed or available hours are changed.

SCHEDULING LOGIC

<u>AVAILABLE HOURS</u>	1st QTR		
	JAN	FEB	MAR
7.5 HR x NO WORK DAYS	173	150	165
<u>FIXED COMMITMENTS</u>			
USER ASSISTANCE	40	30	40
ERROR REPORTS	16	12	16
SHARE 52	<u> </u>	<u>37.5</u>	<u> </u>
	117	70.5	109

TASKS

No.	<u>DESCRIPTION</u>	HRS.		
551-1	JOB VALID EXIT	90	70	20
552-1	MODIFY SP011P	30	30	
553-1	APPLY SU 63	20	17	3
554-1	APPLY AMD RMS	60	<u> </u>	<u>47</u> <u>13</u>
			173	150 165

FEATURES

CHANGE DATE AND SCHEDULE MOVES DOWN. COMPLETED
TASKS ARE EXCLUDED.

MAX HOURS/MO. CAN BE SUPPLIED WITH EACH TASK
DEFAULT 75.

TASKS CAN BE DEPENDENT ON ANOTHER TO FINISH FIRST.

A FIXED START PERIOD CAN BE PROVIDED.

TASK HOURS NOT FINISHED IN 12 PERIODS ARE IN OVERFLOW
AREA.

CROSS FOOT TOTALS ARE PROVIDED*

* A TOTALS PROC IS NEEDED

ERRORS ARE PRINTED IF THE PROGRAM CANNOT FIND A DE-
PENDENT TASK'S PREDECESSOR,

OR IF FIXED TASKS HOURS ARE GREATER THAN
AVAILABLE HOURS;

OR IF THE TABLE FOR DEPENDENT TASKS OVER-
FLOWS.

// EXEC SAS76
OTHER MACROS

SUGI SASWARE SAMPLE INPUT

```

MACRO SCH_DATE TITLE2 'FOR DEC 1978'; S_DATE=MOY(12,1,78); %
-----
*OPTIONS MISSING=; TITLE2 THE GRAND AND GLOPIOUS SCHEDULER;
DATA INPUT ID#7-11 #13 DESC#&50. EMP MANHOURS SIMDDYYR.
      COMP#MDDYYB. MRG MVSNO# P#1 L#2#; DROP MVSNO1
      TASK_NH#;
      CALL SUBSTR(TASK_NH,DESC,P#L); DROP P L;
      SCH_DATE;
      IF COMP LT S_DATE AND COMP NE . THEN DELETE;
      ***** IF TASK WAS COMPLETE BEFORE SCH BEGINS = DELETE;
      ***** IF COMP LT S_DATE .... OVERRIDE MACRO_SCH_DATE;
CARDS;
8-625-1-544 JESS /*REF AFT MODS B1 60 . . 26
.
8-625-1-540 MVS IPCS B1 120 . . 30
.
8-625-1-559 AMD TMS ONLINE TEST B1 5 . . 25
.
8-625-1-570 MVS = FIX JES2 SKIP TO CHAN1 B1 15 122078 . B
.
8-625-1-572 MVS INSTALL VS COBOL B1 60 . . 10
.
8-625-1-577 MVS ED JES2 INTERNALS B1 37 . . 25
.
PROC SORT; BY EMP MRG;
DATA JIM SHEL BILL RON NEW; SET;
      IF EMP#78 THEN OUTPUT JIM;
      IF EMP#77 THEN OUTPUT SHEL;
      IF EMP#92 THEN OUTPUT BILL;
      IF EMP#81 THEN OUTPUT RON;
      IF EMP#86 THEN OUTPUT NEW;
OPTIONS MISSING=; * RON_KOSINSKI; AV_IN CARDS;
171 150 165 140 171 165 157 171 157 165 165 157 50 P
FIX_IN CARDS;
A B C D E F G H I J K L FIXED
40 40 40 40 40 40 40 40 40 40 40 40 40
0
DATA TASKHR#; SET PONI MAXHRS=70; SP#1 P#1;
      D#P#1; TYPE#IT;
SCH_PGM#
TITLE 'MONTHLY SCHEDULE FOR R. KOSINSKI';

```

SUGI SASWARE EXAMPLE OUTPUT

MONTHLY SCHEDULE FOR R. KOSINSKI

TASK_NH	MRG	ID	DEPID	COMP	P01	P02	P03	P04	P05	P06
FIXED COMMITMENTS	1	FIXED			DEC	JAN	FEB	MAR	APR	MAY
FIXED COMMITMENTS	2	FIXED			40	40	40	40	40	40
FIXED COMMITMENTS	3	VACAT								
FIXED COMMITMENTS	4	SHARE								
MVS = FIX JES2 SKIP	8	1-570			15					
MVS INSTALL VS COBOL	10	1-572			60					
AMD TMS ONLINE TEST	25	1-559			5					
MVS ED JES2 INTERNAL	25	1-577			37					
JESS /*REF AFT MODS	26	1-544				60				
MVS IPCS	30	1-540				70	50			

MONTHLY SCHEDULE FOR A. FELLE

11:57 TUESDAY, JANUARY 9, 1979 3

TASK NM	MRG ID	DEPID	COMP	P01	P02	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	OVER	TOTAL
FIXED COMMITMENTS	1	FIXED		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		0
FIXED COMMITMENTS	2	FIXE		40	40	40	40	40	40	40	40	0	40	40	40		480
FIXED COMMITMENTS	3	ERRPT		16	16	16	16	16	16	16	8	12	16	16	16		180
FIXED COMMITMENTS	4	HOLID		8	8			8		8		8	8	15	8		71
FIX JOB VALIDATION F	20	4-445		30													30
HASP SW COMMAND DEBU	20	1-560		30													30
MVS ED BAL COURSE	20	1-576		20													20
GEN MVS FROM ANDAHL	25	1-542		29	31												60
MVS TSO LOCK UP FIX	25	1-561			30												30
MVS SQR D SPF MODS	26	1-562			25	5											30
PUT REL DSP1 UNDER 5	31	1-476					30										30
PUT IEFUJV IEFUTL UN	31	1-478					30										30
MODIFY SPO11P CMPL D	31	1-493					20										20
MODIFY ASWOTE ON CP	31	1-494					15										15
MODIFY GPO0HP GBLXRE	31	1-496				9	51										60
MODIFY JES2 TO PICK	31	1-499					30										30
PGM TO CONVERT 26 TO	35	4-472					21	9									30
MVS COMPACTOR INSTAL	90	1-541						30									30
SUM				173	150	165	158	103	56	64	48	60	64	71	64		1176

MONTHLY SCHEDULE FOR S. AUERBACH

11:57 TUESDAY, JANUARY 9, 1979 4

TASK NM	MRG ID	DEPID	COMP	P01	P02	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	OVER	TOTAL
FIXED COMMITMENTS	1	FIXED		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		0
FIXED COMMITMENTS	2	FIXE		40	40	40	40	40	40	40	20	30	10	40	30		410
FIXED COMMITMENTS	3	ERRPT		16	16	16	16	16	16	16	8	12	16	16	12		176
FIXED COMMITMENTS	4	HOLID		8	8			8		8		8	8	15	8		71
FIXED COMMITMENTS	5	CONF													30		30
TUNE MVT ANDAHL	2	1-538		30													30
MVS FICHE WTR EXIT	5	1-539		70	50												120
MVS MOVE SPO01 TO 2	8	1-571		9	24												37
MVS-STUDY PAGE DS	20	1-549			8	22											30
DSP-1 INSTALL SOFTRA	25	1-447				30											30
TEST EPO18M UNDER MV	31	4-491				20											20
INSTALL RMF 2	42	4-441				30											30
BUILD RMF DATA BASE	44	4-442				7	70	13									90
TUNE MVS RESOURCE MA	55	4-443					30										30
RESTORE CPI SOURCE	99	4-105					2	28									30
SUM				173	150	165	158	105	56	64	28	50	34	71	80		1134