## **Solution Constraints**

- Each operation must start only after the previous one in the sequence is completed.
  - Each machine can handle only one operation at a time.
  - The completion time of an operation is the start time plus the processing time.
    - Operations cannot be interrupted once started.

| Test<br>Description  | Test Data                                    | Expected<br>Outcome  | Success? | Evidence   |
|--|--|--|----------|--|
| A list of job<br>files in the<br>jobs directory<br>is displayed<br>in console. | This should be displayed on execution.       | A menu<br>displays the<br>jobs with an<br>associated<br>number.            |          | Select a job file: 1: jobs/jobs_mid.csv 2: jobs/jobs_huge.csv 3: jobs/jobs_pleaseStop.csv 4: jobs/jobs_small.csv 5: jobs/jobs_large.csv_ |
| User is prompted to select a job file.   | User<br>enters the<br>number<br>"1".         | The associated job will be selected.                                       |          | [Enter the file number: 1 You selected: jobs/jobs_mid.csv Task fitness: 48 Task fitness: 48  |
| User selects a non-existent job file — system prompts with error.              | Entering "6" into the console when prompted. | The user is alerted that the file doesn't exist and is asked to try again. |          | [Enter the file number: 6 Invalid input. Please enter a valid file number. Enter the file number:  |

| The makespan of all jobs is displayed | Generating a schedule associated with 1. | The makespan will be displayed at the top of the | Best job fitness: 27 Schedule:   |
|---------------------------------------|--|--|--|
| clearly.                              |  | schedule<br>output.                              | Time Machining Fabrication ST  |
| The <b>number</b>                     | Generating                               | The number of                                    |  |
| of jobs is                            | a schedule                               | jobs will be                                     |  |
| displayed                             | associated                               | displayed at                                     | Number of Jobs 30  |
| clearly.                              | with 1.                                  | the bottom of                                    | <u></u>  |
|                                       | ļ  | the schedule.                                    |  |
| The <b>average</b>                    | Generating                               | _  |  |
| time taken                            | a schedule                               | time taken per                                   | Average Processing Time 2  |
| per <b>job</b> is                     | associated                               | job will be                                      | Average Processing Time 2  |
| displayed                             | with 1.                                  | displayed at                                     |  |
| clearly.                              |  | the bottom of                                    |  |
| The state                             | Compressing                              | the schedule.                                    |  |
| The total                             | Generating                               | The total  | Task Count 22 21 30 17 30 6 10 10 6  |
| number of<br>tasks for                | a schedule                               | number of<br>tasks will be                       | StartTime Machining Fabrication Assembly Surface Treatment Quality Control Painting Branding Packaging Testing |
| each                                  | associated with 1.                       | displayed at                                     |  |
| subdivision                           | WILLI I.                                 | the top of the                                   |  |
| is displayed                          |  | schedule,  |  |
| clearly.                              |  | above their                                      |  |
| Cicarty.                              |  | associated                                       |  |
|                                       |  | header.  |  |

|                        | 1          | 1                |                |            |             |            |            |                          |               |
|------------------------|------------|------------------|----------------|------------|-------------|------------|------------|--------------------------|---------------|
| A readable             | Generating |                  | Time           | Machining  | Fabrication | ST         | Assembly   | бс                       | Testing       |
| schedule is            | a schedule | with correct     | 0              | Job 2 0p 1 |             |            |            |                          |               |
| printed to the         | associated | subdivisions     | 1 2            |            | Job 2 0p 2  |            |            |                          |               |
| console.               | with 1.    | and job          | 3              |            | Job 6 0p 1  | Job 2 Op 3 | Job 2 Op 4 |                          |               |
|                        |            | placement is     | 5              | Job 5 Op 1 |             |            | 300 L op . |                          |               |
|                        |            | displayed to     | 7              |            |             |            |            |                          |               |
|                        |            | user.            | 8              | Job 3 Op 1 |             |            | Job 6 0p 2 | Job 2 Op 5               |               |
|                        |            |                  | 10<br>11       | Job 1 0p 1 | Job 5 0p 2  | Job 6 0p 4 |            | Job 6 0p 3               |               |
|                        |            |                  | 12             |            | Job 3 Op 2  | Job 5 0p 3 |            |                          | Job 6 0p 5    |
|                        |            |                  | 14             | Job 4 Op 1 | Job 1 Op 2  | Job 3 Op 3 |            | Job 5 0p 4               |               |
|                        |            |                  | 15<br>16       |            |             |            | Job 5 0p 5 | Job 3 Op 4<br>Job 1 Op 3 |               |
|                        |            |                  | 17<br>18       |            |             |            | Job 3 Op 5 |                          | Job 5 Op 6    |
|                        |            |                  | 19             |            |             |            | 333 5 37 5 |                          | 333 2 37 3    |
|                        |            |                  | 21             |            |             |            | Job 1 0p 4 |                          | Job 3 Op 6    |
|                        |            |                  | 22<br>23<br>24 |            |             |            | Job 4 0p 2 |                          | Job 1 Op 5    |
|                        |            |                  | 25             |            |             |            |            |                          |               |
|                        |            |                  | 26<br>27       |            |             | Job 4 0p 3 |            | Job 4 0p 4               |               |
|                        |            |                  | 28             |            |             |            |            | 300 · op ·               |               |
|                        |            |                  |                |            |             |            |            |                          |               |
| User is                | Generating | Schedule will    | Do you         | want to    | export      | the sche   | dule to    | an XI SX                 | file? (y/n):  |
| prompted to            | a schedule | not be           |                |            | exported.   |            | dulc to    | ull ALSA                 | 1110. (3/11). |
| <b>export</b> the file | associated | exported.        |                | i e iloc e |             |            |            |                          |               |
| to an <b>XLSX</b>      | with 1,    |                  |                |            |             |            |            |                          |               |
| and <b>denies</b>      | then enter |                  |                |            |             |            |            |                          |               |
| successfully.          | ʻn'        |                  |                |            |             |            |            |                          |               |
| User is                | Generating | A xlsx file will |                |            |             |            |            |                          |               |
| prompted to            | a schedule | be generated     | > t            | ests       |             |            |            |                          |               |
| export the file        | associated | in the           | x≣ i           | nh sche    | dule.xls    | v          |            |                          |               |
| to an XLSX             | with 1,    | codebase.        | - J(           | JD_3CI16   | duic.xis.   | ^          |            |                          |               |
| and accepts            | then enter |                  |                |            |             |            |            |                          |               |
| successfully.          | 'y'        |                  |                |            |             |            |            |                          |               |
| cassistatty.           | y          |                  |                |            |             |            |            |                          |               |

| Schedule      | Generating | All jobs in           | Task Count  | 3                | 3                | 2                 | 3                | 2                |
|---------------|------------|-----------------------|-------------|------------------|------------------|-------------------|------------------|------------------|
| output        | a job file | output are in         | StartTime   | Machining        | Fabrication      | Surface Treatment | Assembly         | Testing          |
| maintains job | schedule   | the correct           | 09:00-10:00 | JobID: 2 OpID: 1 |                  |                   |                  |                  |
| order.        |            | order, according to   | 10:00-11:00 |                  |                  |                   |                  |                  |
| All headers   |            | constraints.          | 11:00-12:00 | JobID: 1 OpID: 1 | JobID: 2 OpID: 2 |                   |                  |                  |
| and columns   |            | oonotranito.          | 12:00-13:00 |                  |                  | JobID: 2 OpID: 3  |                  |                  |
| are present   |            | Schedule              | 13:00-14:00 |                  |                  |                   |                  |                  |
| and           |            | headers will          | 14:00-15:00 | JobID: 3 OpID: 1 | JobID: 1 OpID: 2 |                   |                  |                  |
| formatted     |            | be consistent         | 15:00-16:00 |                  | JobID: 3 OpID: 2 |                   |                  |                  |
| correctly.    |            | with                  | 16:00-17:00 |                  |                  | JobID: 3 OpID: 3  | JobID: 2 OpID: 4 |                  |
|               |            | subdivisions          | 17:00-18:00 |                  |                  |                   |                  |                  |
|               |            | in selected job file. | 18:00-19:00 |                  |                  |                   | JobID: 1 OpID: 4 |                  |
|               |            | inte.                 | 19:00-20:00 |                  |                  |                   |                  | JobID: 1 OpID: 5 |
|               |            |                       | 20:00-21:00 |                  |                  |                   |                  |                  |
|               |            |                       | 21:00-22:00 |                  |                  |                   |                  |                  |
|               |            |                       | 22:00-23:00 |                  |                  |                   | JobID: 3 OpID: 5 |                  |
|               |            |                       | 23:00-00:00 |                  |                  |                   |                  | JobID: 3 OpID: 6 |
|               |            |                       | 00:00-01:00 |                  |                  |                   |                  |                  |
|               |            |                       |             |                  | End of Sche      | dule              |                  |                  |

| Schedule<br>output does  | Generating a job file                          | All jobs in same  | Time   | Machining                              | Fabrication                        | ST                    | Assembly                           | Testing                  |
|--|--|---|--|--|------------------------------------|-----------------------|------------------------------------|--------------------------|
| not have conflicting start times.  | schedule                                       | subdivision have different start times, according to constraints. | 0<br>1<br>2<br>3<br>4<br>5<br>6<br>7<br>8<br>9<br>10<br>11<br>12<br>13<br>14<br>15 | Job 2 Op 1<br>Job 1 Op 1<br>Job 3 Op 1 | Job 2 Op 2  Job 1 Op 2  Job 3 Op 2 | Job 2 Op 3 Job 3 Op 3 | Job 2 Op 4  Job 1 Op 4  Job 3 Op 5 | Job 1 Op 5<br>Job 3 Op 6 |
| System can<br>handle<br>larger(100+<br>lines) jobs<br>within a<br>reasonable | Loading in<br>a job file<br>with 155<br>lines. | A valid schedule will be generated in <= 2 seconds.               | Elaps  | ed time: 924 r                         | ns (0.924959                       | 5 seconds)            |                                    |                          |

time.

| readable for a job accommodate even with file with for additional   | Job 19 0p 1<br>Job 6 0p 1  | Job 19 Op 2<br>Job 6 Op 2 | Job 19 Op 3<br>Job 18 Op 2 | Job 18 0p 1                |  |             |                            |  |                           |
|---|----------------------------|---------------------------|----------------------------|----------------------------|--|-------------|----------------------------|--|---------------------------|
| readable for a job accommodate even with file with for additional   |                            |                           |                            | Job 18 Op 1                |  |             |                            |  |                           |
| even with file with for additional  |                            | 300 6 VP 2                | Job 18 Op 2                | 100 TO OD 1                |  |             |                            |  |                           |
| 8   |                            |                           |                            | Job 16 0p 1<br>Job 4 0p 1  | Job 19 Op 4  | Job 19 0p 5 |                            |  |                           |
| talger lites 133 tilles. Headings and   |                            |                           |                            | Job 4 Op 1<br>Job 28 Op 1  |  |             |                            |  |                           |
| (Console) data.   |                            |                           | Job 16 0p 2                | Job 11 Op 1                |  |             |                            |  |                           |
| (Console) data.   |                            |                           | Job 4 Op 2                 | Job 14 0p 1                |  |             |                            |  |                           |
| 15<br>16  |                            |                           | Job 28 0p 2                | Job 25 0p 1                |  |             |                            |  |                           |
| 18<br>18<br>19  | Job 11 Op 2                |                           | Job 6 Op 3                 | Job 20 Op 1                |  |             |                            |  |                           |
| 20 21 22  |                            | Job 4 0p 3                | Job 14 0p 2                | Job 8 Op 1                 | Job 18 0p 3<br>Job 16 0p 3                               |             |                            |  |                           |
| 23<br>24  |                            | 200 + 00 Z                | Job 25 Op 2                | Job 7 Op 1                 | Job 6 Op 4<br>Job 28 Op 3                                |             | Job 18 Op 4                | Job 6 0p 5                               |                           |
| larger files (Console)  153 lines. headings and data.   | Job 20 0p 2                |                           | Job 11 Op 3                | Job 12 Op 1                |  | Job 16 0p 4 |                            |  |                           |
| 28 29   | Job 8 Op 2                 |                           | Job 7 Op 2                 | Job 27 Op 1<br>Job 24 Op 1 | Job 14 Op 3  |             |                            |  |                           |
| 30<br>31<br>32  | Job 12 0p 2                | Job 20 Op 3<br>Job 8 Op 3 |                            | Job 9 Op 1                 | Job 14 Op 3<br>Job 25 Op 3<br>Job 4 Op 4                 |             |                            |  |                           |
| 33<br>34  | Job 12 Op 2<br>Job 27 Op 2 | Job 12 Op 3               |                            | Job 9 Op 1<br>Job 1 Op 1   | Job 11 0p 4  |             | Job 7 0p 3                 |  | Job 28 0p 4               |
| 36<br>37  | Job 29 0p 1                | Job 27 Op 3               |                            |                            |  | Job 25 Op 4 | Job 4 Op 5                 |  | Job 14 0p 4               |
| 38 39   | Job 24 0p 2                | Job 9 Op 2                | Job 20 Op 4                | Job 3 Op 1                 |  | Job 4 Op 6  |                            |  | Job 11 Op 5               |
| 41 42   |                            | Job 24 Op 3               | Job 9 Op 3                 | Job 21 Op 1                | Job 20 Op 5  |             |                            |  |                           |
| 43<br>44<br>45  | Job 26 0p 1<br>Job 22 0p 1 |                           |                            |                            |  |             |                            |  |                           |
| 46 47   | Job 17 Op 1                |                           | Job 8 Op 4                 |                            |  |             |                            |  |                           |
| 48<br>49<br>50  | Job 15 0p 1                |                           | Job 12 Op 4                |                            | Job 7 Op 4   | Job 8 Op 5  |                            |  |                           |
| 51<br>52<br>53  | Job 1 Op 2                 |                           |                            | Job 30 Op 1                | Job 8 Op 6   |             |                            |  | Job 7 0p 5                |
| 54<br>55  |                            | Job 29 Op 2               |                            | Job 23 Op 1<br>Job 2 Op 1  | Job 12 Op 5<br>Job 1 Op 3                                | Job 12 Op 6 |                            |  |                           |
| 56<br>57<br>58  | Job 10 0p 1                |                           | Job 29 Op 3                | loh 13 On 1                |  |             |                            |  |                           |
| 59 60   | Job 3 Op 2<br>Job 21 Op 2  | Job 26 Op 2               | Job 27 Op 4                | Job 13 Op 1<br>Job 5 Op 1  |  |             |                            |  |                           |
| 61<br>62<br>63  |                            | Job 22 Op 2               | Job 24 Op 4                |                            | Job 27 Op 5  |             |                            |  |                           |
| 64  |                            | Job 17 Op 2               |                            |                            |  |             |                            |  |                           |
| 67<br>68  |                            | Job 15 Op 2<br>Job 3 Op 3 | Job 30 Op 2                |                            | Job 9 0p 4<br>Job 24 0p 5                                |             |                            |  |                           |
| 69<br>78  | Job 23 Op 2                |                           | Job 21 Op 3                |                            |  |             | Job 24 Op 6                | Job 9 0p 5                               |                           |
| 72 73   | Job 2 Op 2                 |                           |                            |                            |  |             |                            |  |                           |
| 74<br>75<br>76  |                            |                           | Job 10 Op 2                |                            |  |             |                            |  |                           |
| 77<br>78  | Job 13 Op 2<br>Job 5 Op 2  |                           | Job 26 0p 3                |                            |  |             |                            |  |                           |
| 80<br>81  | J00 5 UP 2                 |                           | Job 22 Op 3                |                            |  |             |                            |  |                           |
| 82<br>83<br>84  |                            |                           |                            |                            |  |             |                            |  |                           |
| 85  |                            |                           | Job 17 Op 3                |                            |  |             |                            |  |                           |
|   |                            |                           | Job 15 Op 3                |                            |  |             |                            |  |                           |
| 90 91   |                            |                           |                            |                            | Job 30 Op 3  |             |                            |  |                           |
| 93<br>94  |                            |                           | Job 23 Op 3                |                            | 2 40 95 000  |             |                            |  |                           |
| 95<br>96<br>97  |                            | Job 2 Op 3                | Job 1 Op 4                 |                            | Joh 10 On 3  |             |                            |  |                           |
| 98  |                            | Job 13 Op 3               | Job 5 Op 3                 |                            | Job 10 Op 3<br>Job 29 Op 4<br>Job 3 Op 4<br>Job 21 Op 4  |             |                            | Job 1 0p 5                               | Job 1 0p 6                |
| 100<br>101<br>182   |                            |                           | Job 3 Op 5                 |                            |  |             |                            |  |                           |
| 193<br>194  |                            |                           |                            |                            | Job 26 Op 4<br>Job 22 Op 4<br>Job 17 Op 4<br>Job 15 Op 4 |             |                            | lob 21 0= 5                              |                           |
| 196<br>196  |                            |                           |                            |                            |  | Job 30 Op 4 |                            | Job 21 Op 5<br>Job 26 Op 5<br>Job 3 Op 6 |                           |
| 198<br>189  |                            |                           | Job 2 Op 4                 |                            | Job 23 Op 4  | Job 22 Op 5 |                            |  | Job 21 0p 6               |
| 111<br>111<br>112   |                            |                           |                            |                            |  |             |                            |  | Job 17 Op 5<br>Job 3 Op 7 |
| 889 90 91 92 934 95 95 96 97 98 98 99 180 181 182 183 184 185 186 186 187 188 189 110 111 112 113 114 115 115 116 |                            |                           | Job 13 Op 4                |                            |  |             | Job 10 Op 4<br>Job 15 Op 5 |  |                           |
| 116<br>117  |                            |                           |                            |                            | 1-h E 0- 4   |             |                            |  | Job 23 Op 5               |
| 118<br>119<br>170   |                            |                           |                            |                            | Job 5 Op 4   |             |                            |  | Job 23 Up 5               |

| Schedule            | Generating | The            | A 8  | c 0   | 2  | F  | G                   | н                               | 1   | K L M N O P Q R S T U V |
|---------------------|------------|----------------|--|---|--|--|---------------------|---------------------------------|---|-------------------------|
| output is           | a schedule | spreadsheet    | 1 Tak Count 22 2 SetTime Machine Studenton 3 09:00-10:00   | 21 30<br>Amerikly                                 | Surface Stratement                         | Quality Control  | Paintine 0          | inedias Testins                 | 6 10<br>Paleine   |                         |
|                     |            |                | 4 10 00 11 00 mbiD 4 0mD 1<br>5 11 00 12 00 mbiD 26<br>6 12 00 13 00<br>7 13 00 14 00  | i Onito 1   |  |  |                     |                                 |   | 1                       |
| readable            | for a job  | can            | 5. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1   |   | Jobi D: 26 Oo/D: 2<br>Jobi D: 4 Oo/D: 3    |  |                     |                                 |   | 1                       |
| even with           | file with  | accommodate    | 11 17:00-18:00<br>12 18:00-19:00 Inhito: 24<br>13 19:00-28:00 Inhito: 24   | 0 00 1<br>00 2                                    |  | JobiD: 4 CoID: 4   |                     |                                 |   | 1                       |
| <b>larger</b> files | 153 lines. | for additional | 14 20 00-21-00 JahlD 14 OelD 1<br>15 21 00-22-00 JahlD 7 OelD 1  | July 10: 16 Out 0: 2                              | John Dr. 29 Oor Dr. 2                      |  | John D. A. Cont. S. | obiO: 4 OnIO: 6                 |   | 1                       |
| (Spreadsheet)       |            | headings and   | 18 00 00 01 00 abit: 18 0er0: 1<br>19 01 00 02 00 abit: 13 0er0: 1<br>20 02 00 03 00   | Jahri D. 14 Opt D. 2                              |  |  |                     |                                 |   | 1                       |
|                     |            | data.          | 21 02-00-00 Balio 5 Celo 1<br>22 04-00-05-00<br>23 05-00-06-00   | July (0: 7 On (0: 2                               |  |  |                     |                                 |   | 1                       |
| Console and         |            |                | 24 06 00 07 00 Juhi0: 9 Oni0: 1<br>25 07:00-08:00 Juhi0: 9 Oni0: 1<br>26 08:00-08:00 Juhi0: 23 Oni0: 1   | Deliti: 1<br>Anhi (1: 18 Onl (1: 2                |  |  |                     |                                 |   | _                       |
| Spreadsheet         |            | Both outputs   | 27 10 00 -11 00 21 100 27 Card abit 12 00 11 00 12 00 13 00 20 00 12 00 13 00 20 00 13 00 15 10 10 10 10 10 10 10 10 10 10 10 10 10  | 0x10: 2<br>0x10: 2<br>0x10: 2<br>0x10: 25 0x10: 3 |  |  |                     |                                 |   | 1                       |
|                     |            | <u> </u>       | 31 18:00:14:00<br>32 14:00:15:00<br>33 15:00:14:00 mbiD 8:0mD 1  |   | July Dr. 6 Okt Dr. 2                       | John D: 26 Out D: 4  |                     | John D. 26 On                   | 0:5   | 1                       |
| data                |            | have matching  | 34 16:00-17:00<br>35 17:00-18:00<br>34 18:00-19:00 Seb10: 22   | 040.1   | Jubi D: 9 Out D: 2<br>Jubi D: 24 Out D: 3  | JohitD: 16 ColD: 3   |                     |                                 |   |                         |
| matches.            |            | content.       | 37 19 00 20 00 MbID 2 Ceil 1<br>38 20 00 21 00<br>39 21 00 22 00   | 040.1   |  |  |                     |                                 |   | 1                       |
|                     |            |                | 41 23 00 00 00 00 41 00 00 00 00 00 00 00 00 00 00 00 00 00  | Out 0. 2  |  | JohitD: 14 CoID: 3   | John Z Out D. 3     |                                 |   | 1                       |
|                     |            |                | 44 02:00:000 abiD:30 Octo: 3 abiD:31   | Out0: 2 July 0: 24 Out0: 4                        | Jehi D: 13 Oel D: 3                        | JohiD: 18 OutD: 3<br>JohiD: 24 OutD: 5                         |                     | obi0: 16 OuiD                   |   | 1                       |
|                     |            |                | 47 05-00-00<br>48 06-00-07-00 JahlD: 12 Oat0: 9<br>49 07-00-08-00  | John S Out D: 3                                   | John D. 22 Ont D. 2                        | July 10: 28 Out D: 4   | John D. 24 ColD: 6  |                                 | JehitD: 14 OutD: 4                                      | d                       |
|                     |            |                | 50 08-00-00 Bello 10<br>51 08-00-10-00<br>52 18-00-11-00 Bello 15  | OutD-1 JubitO: 6 OutD: 3                          |  | JohiD: 7 OuID: 4   |                     |                                 | Johi D: 7 Oal D: 5                                      | 1                       |
|                     |            |                | 53   11:00-12:00   HeliD 11 Ont D 3 HeliD 2   55   12:00-14:00   HeliD 11 Ont D 3 HeliD 2  | OutD-2 July D-10-3                                |  |  | JobiD: 18 CoID: 4   |                                 |   | 1                       |
|                     |            |                | 54 1400-1400 Bailo 25 Galo<br>57 15-00-14-00<br>58 16-00-17-00<br>59 17-00-18-00 Bailo 25  | John 23 Onto 3                                    | Jahl D. 27 Out D. 3<br>Jahl D. 20 Out D. 3 |  |                     |                                 |   | 1                       |
|                     |            |                | 60 18 00 19 00 20 00 20 10 20 10 20 10 20 10 20 10 20 10 20 10 20 20 20 20 20 20 20 20 20 20 20 20 20  | Out0: 2 July 0: 13 Out0: 4<br>Out0: 2             | Jubit0: 3 CelD: 3                          | JobiD: 5 DelD: 4<br>JobiD: 6 DelD: 4                           |                     |                                 |   | 1                       |
|                     |            |                | 61 21:00:22:00 BhID 28 OHD 1<br>64 22:00:23:00<br>65 22:00:00:00 BhID 12   | Jobi D: 30 Out D: 2                               |  | JobiD: 9 OoID: 4<br>JobiD: 23 CoID: 4<br>JobiD: 13 OoID: 5     |                     |                                 |   |                         |
|                     |            |                | 6.   | abi0: 10 Oci0: 2                                  |  |  |                     | Johiti: 6 Celd                  | John Dr. S ColD: S                                      | 1                       |
|                     |            |                | 70 0400-0500 Philo-11  | Out0: 2 Jub/0: 27 Ou/0: 4                         | 2600 15 0000 2                             | John 27 On D. S  |                     | albib 9 cars                    | Johi D: 23 Col D: 5                                     | 1                       |
|                     |            |                | 73 07:00-08:00<br>74 08:00-08:00<br>75 08:00-18:00   | July 10: 25 Ou 10: 2                              |  |  |                     |                                 |   | 1                       |
|                     |            |                | 76 10:00:11:00<br>77 11:00:12:00<br>78 12:00:12:00   | July 10: 22 Out 0: 3                              | John 17 Out 0: 2                           |  |                     |                                 |   | 1                       |
|                     |            |                | 79 13-00-14-00 InhitO-11<br>80 14-00-15-00<br>81 15-00-16-00   | 0x10-2  | 3x510: 2 0x10: 3                           |  |                     |                                 |   | 1                       |
|                     |            |                | 82 16:00-17:00<br>81 17:00-18:00<br>84 18:00-18:00   | Jabi D: 28 Oal D: 2                               |  |  |                     |                                 |   | 1                       |
|                     |            |                | 86 2890-2190<br>87 2190-2290<br>88 2290-2290   | John 21 Optio 3                                   | John D. E Out D. 3                         |  |                     |                                 |   | 1                       |
|                     |            |                | 77.   1.00 a.00   77.   1.00 a.00   78.   1.00 a.00   79.   1.00 a | July (0: 28 Out 0: 4                              | anhi0: 12 Oni0: 3                          | JobiD: 30 CoID: 3<br>JobiD: 3 CoID: 4                          |                     |                                 |   | 1                       |
|                     |            |                | 97 02-00-00 0<br>93 02-00-00 0<br>94 04-00-00  |   |  | JobiD: 10 OutD: 3<br>JobiD: 22 OutD: 4<br>JobiD: 20 OutD: 5    |                     |                                 |   | 1                       |
|                     |            |                | 95 05-00-00-00<br>96 06-00-07-00<br>97 07-00-00-00   | July (0: 15 Out (0: 3                             |  |  |                     |                                 |   | 1                       |
|                     |            |                | 93 09-00-19-00   | July 10: 11 Out 0: 3                              |  | Job/0: 25 CoID: 3  |                     |                                 |   | 1                       |
|                     |            |                | 1001100 110011000 110011000 110011000 110011000 110011000 110011000 110011000 110011000 110011000 110011000 110011000 110011000 110011000 1100000 11000000  | July (0: 17 Out (0: 3                             |  | Johiti: 1 Outil: 3   |                     |                                 |   |                         |
|                     |            |                | 105 15-00-16-00<br>105 16-00-17-00<br>107 17-00-18-00  | July (0: 2 On (0: 4                               |  | John 28 Out D: 3   |                     |                                 |   | _                       |
|                     |            |                | 101 1900-1900<br>102 1900-29-00<br>110 2800-21-00<br>111 21-00-22-00   | July 10: 3 On 10: 5                               |  | July 10: 21 Out D: 4   |                     | NAME A COL                      |   | 1                       |
|                     |            |                | 112 22 00 22 00<br>113 22 00 00 00   | John D. B. Ost D. A                               |  | John D. 2 Out D. 5   |                     | nbr0: 22 OutD                   | Johi D: 3 Oui D: 7                                      | 4                       |
|                     |            |                | 115 01 00 07 00<br>116 02 00 05 00<br>117 01 00 08 00<br>118 08 00 05 00   |   |  |  |                     | eNO: 18 OND                     |   | 1                       |
|                     |            |                | 119 05:00:05:00  | John 12 Opt 0: 4                                  |  |  |                     | JobiD: 21 Ou<br>obiD: 8 OuiD: 2 | 0.5   |                         |
|                     |            |                | 120 06-00-07-00<br>121 07-00-08-00<br>122 08-00-08-00<br>123 08-00-18-00<br>124 18-00-18-00<br>125 11-00-18-00   |   |  | Job/ID: 12 OutD: 5<br>Job/ID: 15 OutD: 4<br>Job/ID: 11 OutD: 4 | AnhiD: 10 OuiD: 4   | eleito: 10 Outo 5               |   | 1                       |
|                     |            |                | 125 11:00:12:00<br>126 12:00:12:00<br>127 12:00:12:00  |   |  | July 17 Out D: 4   | JobiD: 15 CoiD: 5   | obiD: 25 OaID:                  | John D. 11 Owi D. 5                                     | 1                       |
|                     |            |                | 13 130 120 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1   | July Ch. 1 Charle: 4                              |  |  |                     | John 1 Oeto                     | John 17 Corp. 5<br>30510: 28 Corp. 4<br>John 21 Corp. 6 | 4                       |
|                     |            |                | 131 17:00:18:00<br>132 18:00:19:00<br>133 18:00:20:00  |   |  | Johiti: E ColiD: 6   |                     |                                 |   | 1                       |
|                     |            |                | 134 20:00:21:00<br>135 21:00:22:00<br>136 22:00:23:00  |   |  |  |                     | obiD: 12 CoID                   | Jehi D: 1 Oui D: 6                                      | 1                       |
|                     |            |                | 137 138  |   | Brid of Shi                                |  |                     |                                 |   | 1                       |
|                     |            |                | 141 Number of Subdivis 9<br>142 Subd Number of Subdivis 152  |   |  |  |                     |                                 |   | 1                       |