ANCILLARY PROGRAMS

A number of ancillary programs written in F# are available in the distribution.

SCAN TAPES

ScanTapes inDir OutDir

This is a utility program for processing a folder of images of Elliott paper tapes.

The program takes as input a path name for a directory of paper tape images.

It is expected that each directory contain a set of related tapes. For each tape there are multiple copies labelled XXX.1, XXX.2 XXX.3 etc where XXX is a file name describing the content of the input paper tape.

ScanTapes first verifies these are identical and if not reports an error. ScanTapes then produces translated versions of the tapes in a directory whose name is NAME(SCANNED) where NAME is the name of the source directory.

For each tape ScanTapes ignores initial blanks and uses a set of heuristics to recognize a visible header if present.

If the first significant character after the iniial blanks and detected header, if any, is a 920 telecode newline, the tape is presumed to be in 920 telecode, if it is a 900/903 telecode carriage return or newline, the tape is presumed to be in one of these codes, otherwise it is assumed to be binary.

The heuristics for detecting legible headers are not perfect and therefore sometimes a tape will be misclassified. In such cases it may be necessary to process the image file manually to derive binary and/or text versions using the VisualizeTape and StripHeader utilities.

For each tape ScanTapes will produce:

1. A file with extension .RAW containing the raw bytes
2. A file with extension .BIN containing the binary representation of the tape

3. A file with extension .920 if the tape was presumed to be in 920 format, containing the tape contents translated to the UTF-16 representation for 920 telecode input
4. A file with extension .900 if the tape was presumed to be in 903/900 format, containing the tape contents translated to the UTF-16 representation for 900 telecode.

Halt codes are translated to the sequence <! Halt!>. A bell in 900 and 903 telecode is translated to the sequence <! Bell !>. Input bytes with no corresponding character in the corresponding telecode are translated to the sequence <! xyz !>, where xyz is the numerical value of the input byte.

Binary and text versions of tapes with legible headers have the header stripped and inserted as a visible representation (i.e., <! LEGIBLE ... !> or (!LEGIBLE ... !). For raw versions of tapes the legible header is copied to the output unaltered. Thus the raw version is identical to the original input and should be treated as the authoritative version.

VISUALIZE TAPE

VisualizeTape inFile n

The first n inches of data in the paper tape input file, which should be in .RAW format, are printed out in legible tape form. Leading blank tape is ignored.

STRIP LEGIBLE HEADER

StripHeader inFile n

The first n inches of data in the paper tape input file, which should be in .RAW format, are treated as legible header and the entire file punched out as a.BIN format file with the same prefix as inFile. StripHeader is typically used after inspecting the file with VisualizeTape to determine the length of the legible header.

SIR PRETTY PRINTER

SirPrint inFile [outFile]

This program reads a SIR program and lays it out in columns.

Input may use any characters in the 900, 903 or 920 telecodes that correspond to a SIR internal code. (Fortunately this is an unambiguous set). 920 ALGOL escape sequences, such as |< and |>, are also supported.

The input is lexically analysed and syntax checked.

Column "tab stops" are set at positions: 1,11,17,27,37,47,... However spaces are used rather than tabs to ensure the output layout is correct no matter what program is used to display it.

If no output file is specified, the pretty printed version is directed to the standard output.