

| May 14 2008 11:33 | shift.c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Page 1 |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 1                 | /******<br>2 /*<br>3 /* Masazumi Kurihara 2004/08/26 */<br>4 /* revised 2008/05/14 */<br>5 /* ファイル名: fsht.c */<br>6 /*<br>7 /******<br>8<br>9 #include <stdio.h><br>10<br>11 /* アルファベットの大文字 または 小文字 の中で<br>12 k だけ循環右シフトする暗号のプログラム */<br>13<br>14 /* 97<= a,...,z <=122 <---> 65 <= A,...,Z <=90 */<br>15<br>16 int k;<br>17<br>18 shift(int a)<br>19 {<br>20 int b;<br>21<br>22 if ( 65 <= a && a <= 90){<br>23 if(a+k >90){<br>24 b=a+k-91+65;<br>25 }<br>26 else{<br>27 b=a+k;<br>28 }<br>29 }<br>30 else{<br>31 if ( 97 <= a && a <= 122){<br>32 if(a+k >122){<br>33 b=a+k-123+97;<br>34 }<br>35 else{<br>36 b=a+k;<br>37 }<br>38 }<br>39 else{<br>40 b=a;<br>41 }<br>42 }<br>43 return b;<br>44 }<br>45<br>46 filter(int a)<br>47 {<br>48 if ( a < 0){<br>49 return k=k+26;<br>50 }<br>51 }<br>52 }<br>53 check( int a)<br>54 {<br>55 if ( a >= 26    a <=-26){<br>56 printf(" Warnning!!! :  k  is greater than or equal to 26.\n");<br>57 printf(" Warnning!!! :  k  must be less than 26.\n");<br>58 return -1;<br>59 }<br>60 else{<br>61 return 1;<br>62 }<br>63 }<br>64<br>65<br>66 main() |        |

shift.c

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|-------------------|--------------------------------------------------------------------------------------------|--------|
| 67                | {                                                                                          |        |
| 68                | FILE *fopen(), *fpr, *fpw;                                                                 |        |
| 69                | int cc,ccc;                                                                                |        |
| 70                | char namer[20], namew[20];                                                                 |        |
| 71                |                                                                                            |        |
| 72                | printf("...start SHIFT-cipher.\n");                                                        |        |
| 73                | printf(" 1. If you want to encode input-file then input k, otherwise( decoding ) -k.?\n"); |        |
| 74                | printf(" shift size k ? : ");                                                              |        |
| 75                | scanf("%d",&k);                                                                            |        |
| 76                |                                                                                            |        |
| 77                | if (check(k)==1){                                                                          |        |
| 78                |                                                                                            |        |
| 79                | printf(" 2. input-file name? : ");                                                         |        |
| 80                | scanf("%s",namer);                                                                         |        |
| 81                | printf(" 3. output-file name? : ");                                                        |        |
| 82                | scanf("%s",namew);                                                                         |        |
| 83                | if((fpr=fopen(namer,"r")) == NULL) exit(-1);                                               |        |
| 84                | if((fpw=fopen(namew,"w")) == NULL) exit(-1);                                               |        |
| 85                |                                                                                            |        |
| 86                | filter(k);                                                                                 |        |
| 87                |                                                                                            |        |
| 88                | while((cc=fgetc(fpr)) != EOF){                                                             |        |
| 89                | cc=shift(cc);                                                                              |        |
| 90                | fputc(cc,fpw);                                                                             |        |
| 91                | }                                                                                          |        |
| 92                |                                                                                            |        |
| 93                | fclose(fpr);                                                                               |        |
| 94                | fclose(fpw);                                                                               |        |
| 95                | printf(".. end of SHIFT-cipher.\n");                                                       |        |
| 96                | }                                                                                          |        |
| 97                | }                                                                                          |        |
| 98                |                                                                                            |        |
| 99                | /*****                                                                                     |        |
| 100               | /*                                                                                         |        |
| 101               |                                                                                            |        |
| 102               | コンパイル方法と実行方法:                                                                              |        |
| 103               | ( 1. ファイル名 foo の内容をシフト暗号化し, ファイル名 goo に書き出す。 )                                             |        |
| 104               | ( 2. ファイル名 goo の内容を復号化し, ファイル名 hoo に書き出す。 )                                                |        |
| 105               |                                                                                            |        |
| 106               | IED: gcc -o sft shift.c                                                                    |        |
| 107               | IED: more foo                                                                              |        |
| 108               | WEWILLMEETATCHOFUSTATION                                                                   |        |
| 109               | IED: sft                                                                                   |        |
| 110               | ...start SHIFT-cipher.                                                                     |        |
| 111               | 1. If you want to encode input-file then input k, otherwise( decoding ) -k.?               |        |
| 112               | shift size k ? : 5                                                                         |        |
| 113               | 2. input-file name? : foo                                                                  |        |
| 114               | 3. output-file name? : goo                                                                 |        |
| 115               | .. end of SHIFT-cipher.                                                                    |        |
| 116               | IED: more goo                                                                              |        |
| 117               | BJBNQQRJJYFYHMTKZXIFYNTS                                                                   |        |
| 118               | IED: sft                                                                                   |        |
| 119               | ...start SHIFT-cipher.                                                                     |        |
| 120               | 1. If you want to encode input-file then input k, otherwise( decoding ) -k.?               |        |
| 121               | shift size k ? : -5                                                                        |        |
| 122               | 2. input-file name? : goo                                                                  |        |
| 123               | 3. output-file name? : hoo                                                                 |        |
| 124               | .. end of SHIFT-cipher.                                                                    |        |
| 125               | IED: more hoo                                                                              |        |
| 126               | WEWILLMEETATCHOFUSTATION                                                                   |        |
| 127               | IED: diff foo hoo                                                                          |        |
| 128               | IED:                                                                                       |        |
| 129               |                                                                                            |        |
| 130               | */                                                                                         |        |
| 131               | /*****                                                                                     |        |

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