プログラミング入門II　演習報告書

課題番号：3
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課題 1

リスト

```c
#include <stdio.h>

int main(int argc, char *argv[])
{
    int count;
    FILE *fp;

    if (argc != 2)
    {
        printf("missing file argument.¥n");
        return 1;
    }

    if ((fp = fopen(argv[1], "r")) == NULL)
    {
        printf("can't open %s¥n", argv[1]);
        return 1;
    }

    count = 0;
    while (fgetc(fp) != EOF)
        count++;

    printf("%d chars¥n", count);
    fclose(fp);

    return 0;
}
```

実行結果

```
cosmos08:3_120118 s1111361$ ./q3_1 q3_1.c

426 chars
```

課題 2

リスト

```c
#include <stdio.h>

int main(int argc, char *argv[])
{
    int ch;
    FILE *sfp, *dfp;

    if (argc != 3)
    {
        printf("missing file argument.¥n");
        return 1;
    }

    if ((sfp = fopen(argv[1], "r")) == NULL)
    {
        printf("can't open %s", argv[1]);
        return 1;
    }

    if ((dfp = fopen(argv[2], "w")) == NULL)
    {
        printf("can't open %s", argv[2]);
        fclose(sfp);
        return 1;
    }

    while ((ch = fgetc(sfp)) != EOF)
        if ('a' <= ch && ch <= 'z')
            fputc(ch - 0x20, dfp);
        else
            fputc(ch, dfp);

    fclose(dfp);
    fclose(sfp);

    return 0;
}
```

実行結果

```
cosmos08:3_120118 s1111361$ echo sAmPle > test
cosmos08:3_120118 s1111361$ ./q3_2 test test2
cosmos08:3_120118 s1111361$ cat test
sAmPle
cosmos08:3_120118 s1111361$ cat test2
SAMPLE
```

課題３

リスト

```c
#include <stdio.h>
#include <limits.h>

#define MAX_ITEM 100
#define MAX_NAME_LENGTH 256

int main(int argc, char *argv[])
{
    int i, j, count;
    int min_score, min_score_idx;
    char name[MAX_ITEM][MAX_NAME_LENGTH];
    int score[MAX_ITEM];
    FILE *fp;

    if (argc != 2)
    {
        printf("missing file argument.¥n");
        return 1;
    }

    if ((fp = fopen(argv[1], "r")) == NULL)
    {
        printf("can't open %s¥n", argv[1]);
        return 1;
    }

    i = 0;
    while(fscanf(fp, "%s %d", name[i], &score[i]) != EOF)
        i++;
    count = i;

    fclose(fp);
    printf("File contains %d items.¥n", count);

    printf("Name¥tScore¥n");
    for(j = 0; j < count; j++)
    {
        min_score = INT_MAX;
        min_score_idx = 0;
        for(i = 0; i < count; i++)
        {
            if (0 <= score[i] && score[i] < min_score)
            {
                min_score = score[i];
                min_score_idx = i;
            }
        }
        printf("%s¥t%d¥n", name[min_score_idx], score[min_score_idx]);
        score[min_score_idx] = -1;
    }

    return 0;
}
```

実行結果

```
cosmos08:3_120118 s1111361$ ./q3_3 prog2-ex3-data.txt
File contains 20 items.
Name     Score
Kojima   10
Kuno     10
Miura    12
Ojima    30
Yamada   33
Nagai    35
Kudou    40
Kawasaki 40
Kameda   44
Sato     50
Takahasi 60
Suzuki   60
Suda     65
Hayashi  66
Kato     70
Matumoto 70
Akiyama  80
Kimura   85
Nakamura 95
Saitou   95
```