Rezolvări – Tutoriat 2
Programarea Calculatoarelor
02.11.2018

Ex	Rezolvare

1	**main.c**
	```c\n#include <stdio.h>\n#include "sumaDivTrei.c"\n#include "produsDivDoi.c"\nint main() {\n int n, v[1000], i;\n scanf("%d", &n);\n for (i = 0; i < n; i++)\n scanf("%d", &v[i]);\n int s = sumaDivTrei(n, v);\n int p = produsDivDoi(n, v);\n printf("Suma este %d\\n", s);\n printf("Produsul este %d", p);\n return 0;\n}\n```
	
	sumaDivTrei.c
	```c\nint sumaDivTrei(int nrElem, int a[1000]) {\n int i, s = 0;\n for (i = 0; i < nrElem; i++)\n if (a[i] % 3 == 0)\n s += a[i];\n return s;\n}\n```
	
	produsDivDoi.c
	```c\nint produsDivDoi(int nrElem, int a[1000]) {\n int i, p = 1;\n for (i = 0; i < nrElem; i++)\n if (a[i] % 2 == 0)\n p *= a[i];\n return p;\n}\n```

2	```c\n#include <stdio.h>\n#include <string.h>\n\nint main() {\n FILE *f;\n f = fopen("/Users/alexchirea/CLionProjects/TutoriatPC/text.in", "r");\n if (f == NULL) {\n printf("Fisierul nu exista!");\n return 0;\n }\n int n, i, k = 0;\n char s[1000];\n fscanf(f, "%d", &n);\n while(fgets(s, 1000, f)) {\n for (i = 0; i < strlen(s) - 1; i++) {\n if (k == n) {\n printf("\\n");\n k = 0;\n }\n printf("%c", s[i]);\n k++;\n if (i == strlen(s) - 2 && k < n && s[strlen(s)-1] == '\\n') {\n k++;\n```

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```c
                printf(" ");
            }
        }
        if (s[strlen(s)-1] != '\n')
            printf("%c", s[strlen(s)-1]);
    }
    fclose(f);
    return 0;
}
```

3

```c
#include <stdio.h>

void swap(int *x, int * y) {
    int aux;
    aux = *x;
    *x = *y;
    *y = aux;
}

int main() {
    int a, b;
    scanf("%d%d", &a, &b);
    printf("Inainte de interschimbare a = %d, b = %d\n", a, b);
    swap(&a, &b);
    printf("Dupa interschimbare a = %d, b = %d", a, b);
    return 0;
}
```

4

```c
#include <stdio.h>

int main() {
    FILE *fin, * fout;
    fin = fopen("/Users/alexchirea/CLionProjects/TutoriatPC/date.in", "r");
    fout = fopen("/Users/alexchirea/CLionProjects/TutoriatPC/date.out",
"w");
    if (!fin || !fout) {
        printf("Fisierele nu exista!");
        return 0;
    }
    float v[500];
    int i, n;
    float suma = 0;
    float *pointer;
    fscanf(fin, "%d", &n);
    for (i = 0; i < n; i++)
        fscanf(fin, "%f", &v[i]);
    pointer = v;
    for (i = 0; i < n; i++) {
        suma += *pointer;
        pointer++;
    }
    fprintf(fout, "Suma este %.2f", suma);
    fclose(fin);
    fclose(fout);
    return 0;
}
```

5

```c
#include <stdio.h>

#define MAX_SIR 150

int main() {
    char sir[MAX_SIR];
    char *ptr = &sir[0]; // echiv. cu char *ptr = sir;
    int k = 0;

    gets(sir);

    char c = *ptr;
```

```c
        while (c != '\0') {
            ptr++;
            c = *ptr;
            k++;
        }

        printf("%d", k);
        return 0;
}
```

6

```c
#include <stdio.h>

typedef struct {
    char nume[30], prenume[30];
    int grupa;
    float medie;
} Elev;

int main() {
    FILE *fin = fopen("/Users/alexchirea/Desktop/date.in", "r");
    FILE *fout = fopen("/Users/alexchirea/Desktop/date.out", "w");

    if (fin == NULL || fout == NULL) {
        printf("Fisierul nu exista!");
        return 0;
    }

    int n, i;
    int grupe[51][2] = {{0}};
    float medie[51] = {0};
    /*
     * grupe[gr][0] stochez nr. de elevi nepromovati
     * grupe[gr][1] stochez nr. total de elevi
     * medie[gr] stochez suma notelor dintr-o grupa
     */

    Elev v[500];

    fscanf(fin, "%d", &n);
    for (i = 0; i < n; i++) {
        fscanf(fin, "%s", v[i].nume);
        fscanf(fin, "%s", v[i].prenume);
        fscanf(fin, "%d", &v[i].grupa);
        fscanf(fin, "%f", &v[i].medie);
        grupe[v[i].grupa][1]++; // nr. elevi
        if (v[i].medie < 5)
            grupe[v[i].grupa][0]++; // nr. elevi cu media < 5
        medie[v[i].grupa] += v[i].medie;
    }

    for (i =  1; i <= 50; i++) {
        if (grupe[i][1]) { // exista grupa (are elevi)
            fprintf(fout, "%d ", i);
            fprintf(fout, "%.2f ", medie[i]/grupe[i][1]);
            fprintf(fout, "%d\n", grupe[i][0]);
        }
    }

    fclose(fin);
    fclose(fout);
}
```