LAB 3

***1. Initializeaza o variabila intreaga cu valoarea 1 si dubleaza valoarea pana atinge maximul 1024.***
***Vor fi afisate toate valorile cate 10 pe rand. Spatiul alocat fiecareia fiind de 5 campuri.***

```
#include <stdio.h>

void main(void)
{
   int v=1, i=1;
   while (v<=1024 && i<=10)
   {printf ("%5d", v);
   i++;
   v=v*2;
   }
   printf ("\n");
   i=1;
   while (v<=1024 && i<=10)
   {printf ("%5d", v);
   i++;
   v=v*2;
   }

}
```

***2. Ex 1 cu deplasarea***

```
void main(void)
{
   int v=1, i=1;
   while (v<=1024 && i<=10)
   {printf ("%5d", v);
   i++;
   v=v<<1; // shiftuit la stanga pt a creste de la 2^n la 2^(n+1)
   }
   printf ("\n");
   i=1;
   while (v<=1024 && i<=10)
   {printf ("%5d", v);
   v=v<<1;
   }

}
```

***3. Un prog care determina codul literei in zecimal, octal si hexazecimal***

```
void main(void){


    char l='a';
    printf("valoarea in zecimal a lui %c este %d \n", l,l);
    printf("valoarea in octal a lui %c este %o \n", l,l);
    printf("valoarea in hexazecimal a lui %c este %X \n", l,l);


}
```

***4. Un program care traseaza un tabel***

```
#include <stdio.h>

void main(void)
{
    //un prog care traseaza un tabel

    int n=1, i, k;
    while (n<=5)
       {i=1;k=1;
          while (i<=31)
          {
          printf("-");
          i++;
           }
    printf("\n");
    while (k<=6)
        {printf("|     ");
            k++;
       }
    printf("\n");
    n++;
    }
    i=1;
    while (i<=31)
    {printf("-");
    i++;
    }

}
```

***5. Intr un tabel scriu codurile lit a,b,c,d in zecimal, octal, hexazecimal***

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

```
void main(void)
{
   int k, n=1, i; char l;

      k=1;
      i=1;
      while (i<=40)
      {printf("-");
      i++;
      }
   printf("\n");
   printf("| litera  |  cod10  |  cod8  |  cod16  | ");
      k=1;
      i=1;
    printf("\n");
      while (i<=40)
      {printf("-");
      i++;
      }
      i=1;
      l='a';
      printf("\n");
    printf("|%7c  |  %5d  | %5o  | %6X  |", l , l , l ,l );
     printf("\n");
     while (i<=40)
      {printf("-");
      i++;
      }
      i=1;
      l='b';
      printf("\n");
    printf("|%7c  |  %5d  | %5o  | %6X  |", l , l , l ,l );
printf("\n");
     while (i<=40)
      {printf("-");
      i++;
      }
      i=1;
      l='c';
      printf("\n");
    printf("|%7c  |  %5d  | %5o  | %6X  |", l , l , l ,l );
    printf("\n");
     while (i<=40)
      {printf("-");
      i++;
      }
      i=1;
      l='d';
```

```
        printf("\n");
      printf("|%7c  |  %5d  | %5o  | %6X  |", l , l , l ,l );

 }
```

## LAB 4

/* 1. Un program care afis nr intregi dint-un interval inchis [-10, 10] pe coloana, alin la dreapta, si cu semn, zerouri pe campuri de compile

ex: -10, -09, -08 ... 0 +01 ... +10

*/

```
#include <stdio.h>

int main()
{ int i;
   for (i=-10;i<=10;i++)
      { if (i==0) printf("%3d\n", i);
        else   printf("%+03d\n", i);
      }
       return 0;
}
```

/* 2. afis literele alfabetului a-z 20/ linie pe 3 campuri
*/

Var 1

```
#include <stdio.h>

int main()
{ char c='a';
int i;
   for (i=1;i<=20;i++)
      { printf("%3c", c);
      c++;
      }

   printf("\n");

   while(c<='z')
   {
      printf("%3c", c);
      c++;
```

```
        }


    return 0;
}
```

Var 2.

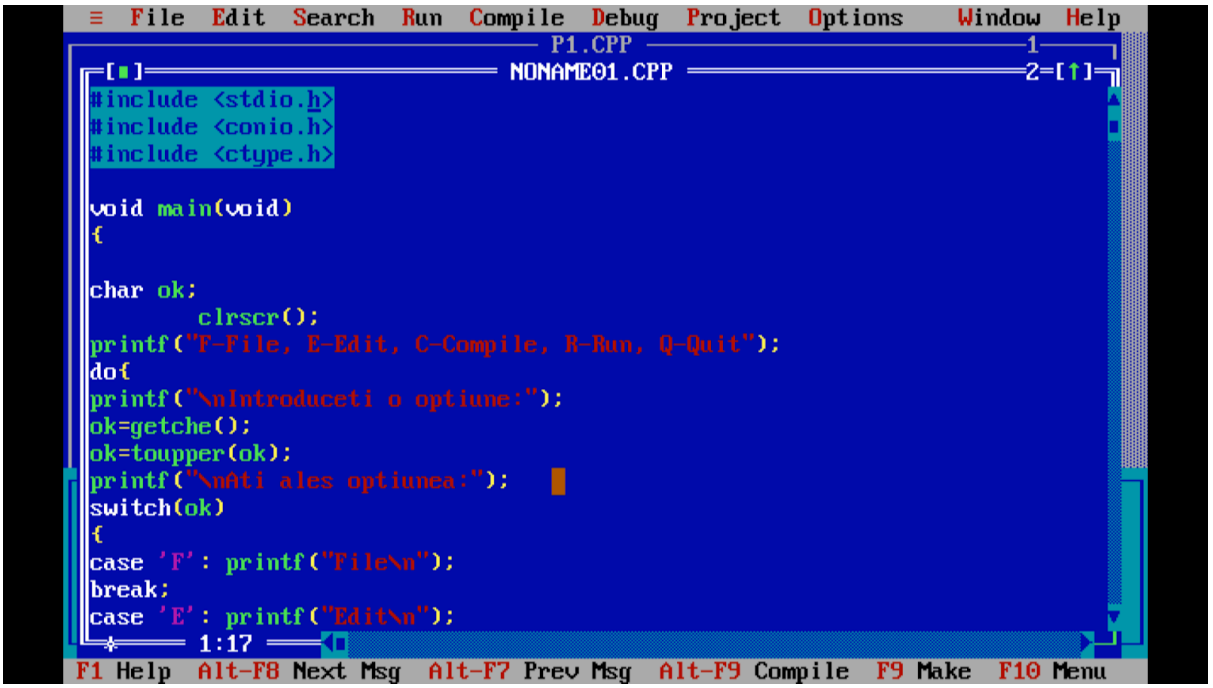
```
#include <stdio.h>

int main()
{ char c='a';
int i;

    while(c<='z')
    {
        printf("%3c", c);
        c++;
        if(i==20) printf("\n");
        i++;
        }


    return 0;
}


/* 3. de la a-l, M-Z lit mici un rand, altul pe alt rand
*/

#include <stdio.h>

int main()
{ char c;
int i;

    for (c='a';c<='l';c++) printf("%3c", c);
    printf("\n");
    for (c='M';c<='Z';c++) printf("%3c", c);


    return 0;
}


/* 4. lung unui cerc si aria discului cu raza= 6.12345, precizie de 7 zecimale, pi=3.1415
*/
```

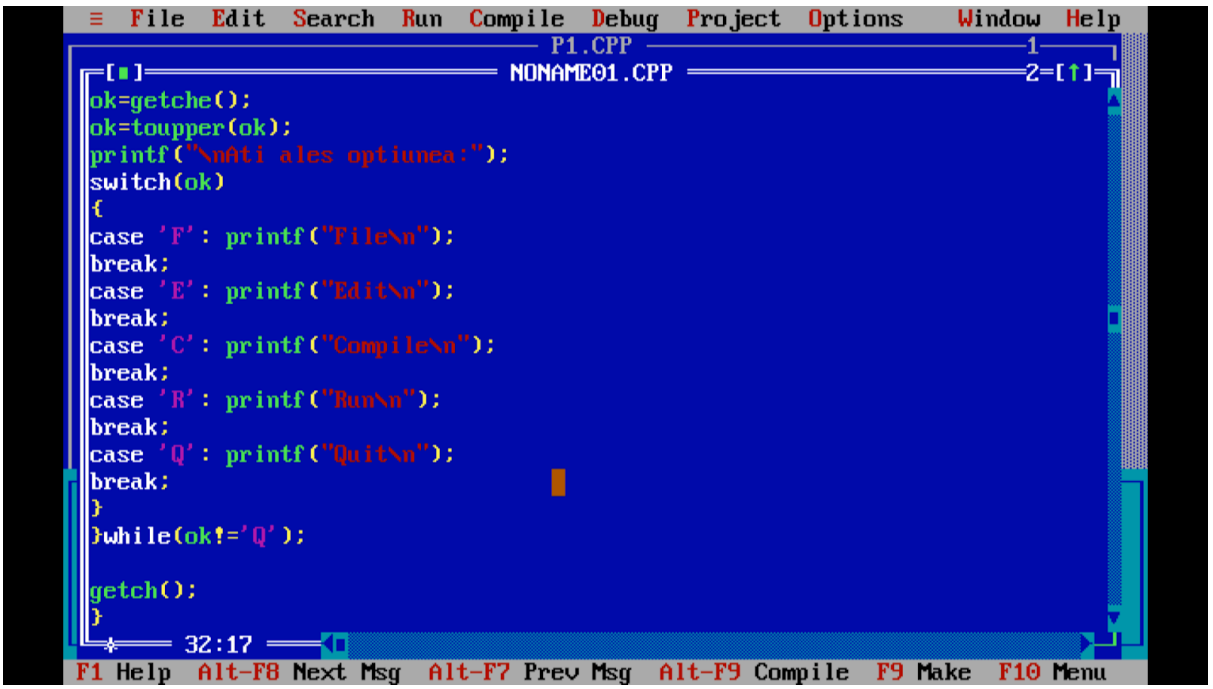
```c
#include <stdio.h>

int main()
{ const float pi=3.1415;
float r=6.12345;
 printf("Lungimea cercului este %11.7f\n", 2*pi*r );
 printf("Aria cercului este %11.7f\n", pi*r*r );
    return 0;
}

/* 5. Scrieti un program care init o variabila cu 1, o incrementeaza pana la 10 si apoi o
decrem pana la 1
pe randuri diferite
*/

#include <stdio.h>

int main()
{ int i;
for (i=1;i<=10;i++) printf ("%3d", i);
printf("\n");
for (i=10;i>=1;i--) printf ("%3d", i);
    return 0;
}



/* 6. Scrieti un program care init o variabila cu 1, o incrementeaza pana la 10 si apoi o
decrem pana la 1
*/

#include <stdio.h>

int main()
{ int i, j;
for (i=1, j=10 ;i<=10, j>=1; i++, j--)
    printf("%3d%3d\n", i, j);
    return 0;
}


/* 7. sa se afis un contor care merge de la 1-10 din 1 in 1, de la 10-15 din 0.5 in 0.5, 15-16
din 0.1 - 0.1
*/

#include <stdio.h>

int main()
```

```
{ float i;
for (i=1;i<=10;i++) printf ("%4.0f ", i);
printf("\n");
for (i=10.5;i<=15;i+=0.5) printf ("%4.1f ", i);
printf("\n");
for (i=15.1;i<16.1;i+=0.1) printf ("%4.1f ", i);
   return 0;
}
```

## LAB 5

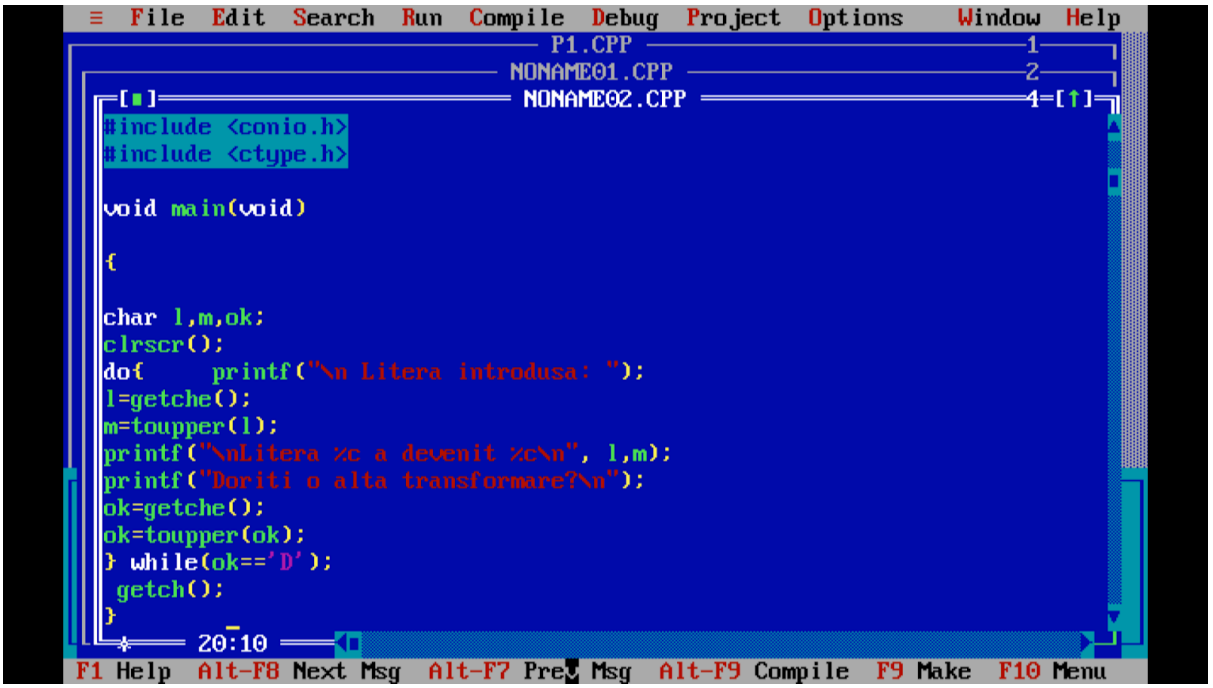
1. **Realizati un program care afis un meniu de forma *f-file, e-edit, c-compile, r-run, q-quit***
   **Se va realiza o interogare repetata pana cand se va tasta Q**



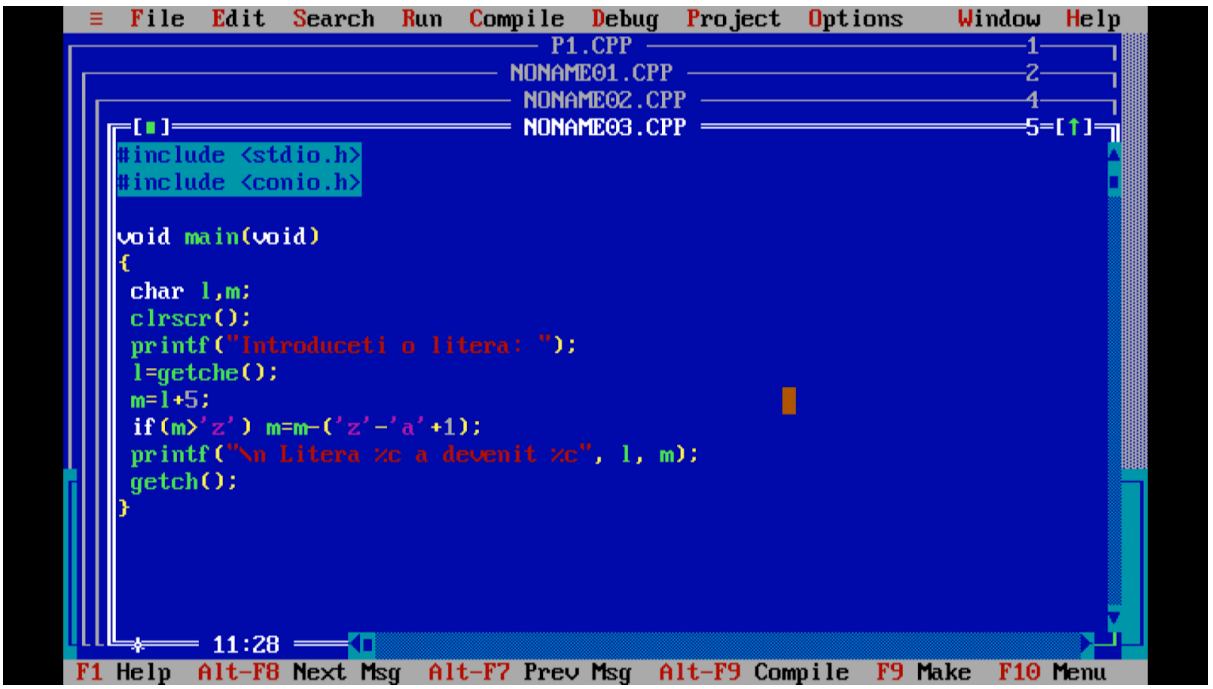



2. Un program care transforma literele mici in litere mari. Se va introduce de la tastatura o litera mica si se va afisa msj : litera … a devenit …

   Dupa prima transf intreaba daca se doreste o a doua transformare: D-Da / N-Nu

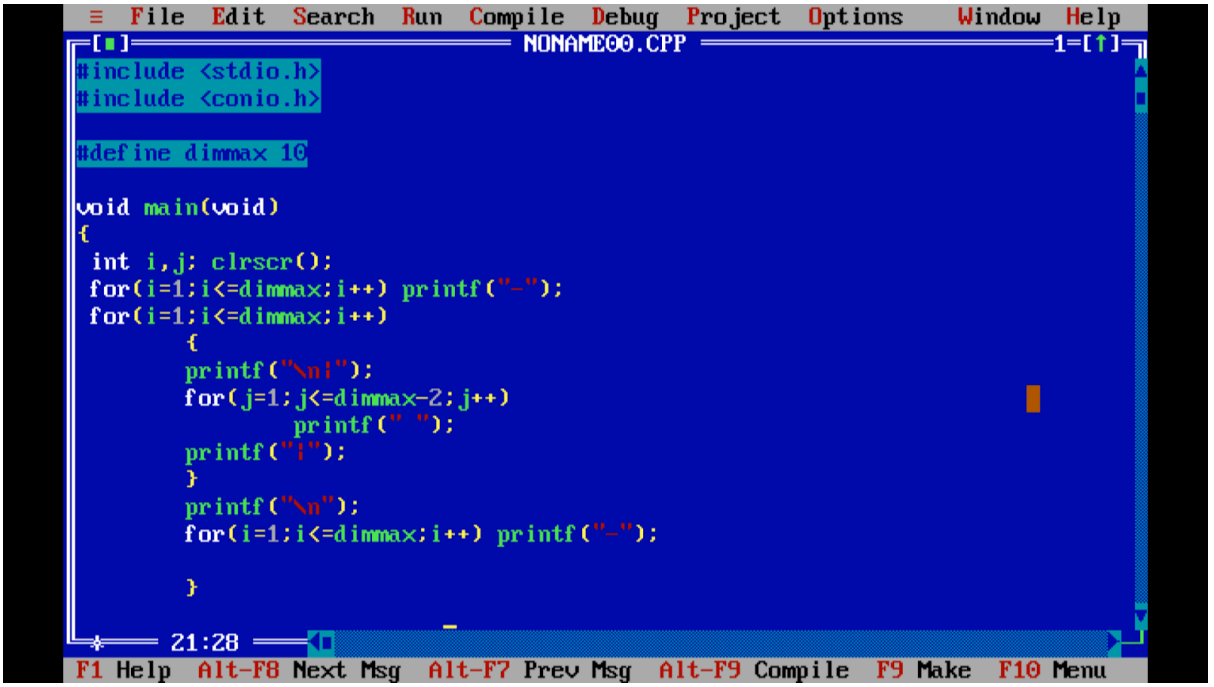



3. Un program care codeaza literele introduse la tastatura introd codul cu 5 unitati:




```
#include <stdio.h>
//  un program care afis nr de consoane din alfabet
int main() {
    char i ; int cons=0;
    for (i='a';i<='z';i++) {
        switch(i)
        {
            case 'a':
            case 'e':
            case 'i':
            case 'o':
            case 'u':
                break;
            default: cons++;
        }

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

4. Un program care deseneaza un patrat gol de 10x10




## LAB 6

```
#include<stdio.h>
#include <math.h>

// un prog care afis val fct sin pt unghiuri cu masuri: 0, 30, 45,
60, 90
#define pi 3.14159
int main()
{
    printf("sin0 = %6.3f\n", sin(0));
    printf("sin30= %6.3f\n", sin(pi/6));
    printf("sin45= %6.3f\n", sin(pi/4));
    printf("sin60= %6.3f\n", sin(pi/3));
    printf("sin90= %6.3f\n", sin(pi/2));



    return 0;
}
```

```c
// tg unghiurilor

#define pi 3.14159
int main()
{
    printf("tg0 = %6.3f\n", tan(0));
    printf("tg30= %6.3f\n", tan(pi/6));
    printf("tg45= %6.3f\n", tan(pi/4));
    printf("tg60= %6.3f\n", tan(pi/3));
    printf("tg90=  infinit");



    return 0;
}

int main()
{
    printf("ctg0 = %6.3f\n", 1/tan(0)); // infinit
    printf("ctg30= %6.3f\n", 1/tan(pi/6));
    printf("ctg45= %6.3f\n", 1/tan(pi/4));
    printf("ctg60= %6.3f\n", 1/tan(pi/3));
    printf("ctg90= %6.3f\n", 1/tan(pi/2));



    return 0;
}

#include <stdlib.h>
// rex imp al tuturor nr din int (10,20) la 7 in 2 moduri
   1. Fara div
   2. Cu div
int main()
{
    int i;
    /*for (i=11;i<20;i++) \\ fara div
    {
        printf(" %d:7 = %d rest %d\n", i, i/7, i%7);
    }
     */
    for (i=11;i<20;i++)
    {
        div_t output = div(i, 7);
        printf("%d:7 = %d rest %d\n", i, output.quot, output.rem);

    }
}
```

**// puterile lui e**

```
#include <math.h>
Int main()
{
Double i;
for(i=1;i<=10;i++)
    {
        printf("e^%2.0f= %2.2f\n", i, exp(i));
    }
Return 0;
}
```

**// generati 2 nr aleatorii si precizati care e nr mai mare**

```
    uint8_t a, b; // am folos uint8_t ca sa apara niste nr mai mici, daca folos int apar nr foarte mari, nu este ceva necesar, e doar ca as voiam eu
    a=rand();
    b=rand();
    printf("cele doua nr generate sunt %d, %d", a,b);
    if(a>b)
    {
        printf("\nnr mai mare este %d", a);
        printf("\nnr mai mic este %d", b);
    }
    else
    {
        printf("\nnr mai mare este %d", b);
        printf("\nnr mai mic este %d", a);

    }
```

**// un prog care afis toate nr ale caror patrate se afle intre 500 si 1000**

```
    //varianta 1 - fara sqrt (calculez pe hartie primul nr al carui patrat perf se afla dupa 500, care e 23)
    /*
     int i=23;
    while(i*i<=1000)
    {
        printf("%d ", i);
        i++;
    }
     */
```

```
    // var 2- aflam primul nr printr un prog (tactica folos in prog in care nu stim capetele intervalelor
    int i;
   /* while(i*i<500) // 500 sau inceputul de interval
    {
        i++;
    }
    while(i*i<=1000)
    {
        printf("%d ", i);
        i++;
    }
    */
    //var 3- folos fct sqrt
    int a=sqrt(500);
    printf("%2.0f ", sqrt(500));
    for (i = 500; i< 1000; i++)
    {

    if (int(sqrt(i))!=a) {printf("%2.0f ", sqrt(i)); }
    a=int(sqrt(i));
    }
```

# LAB 7

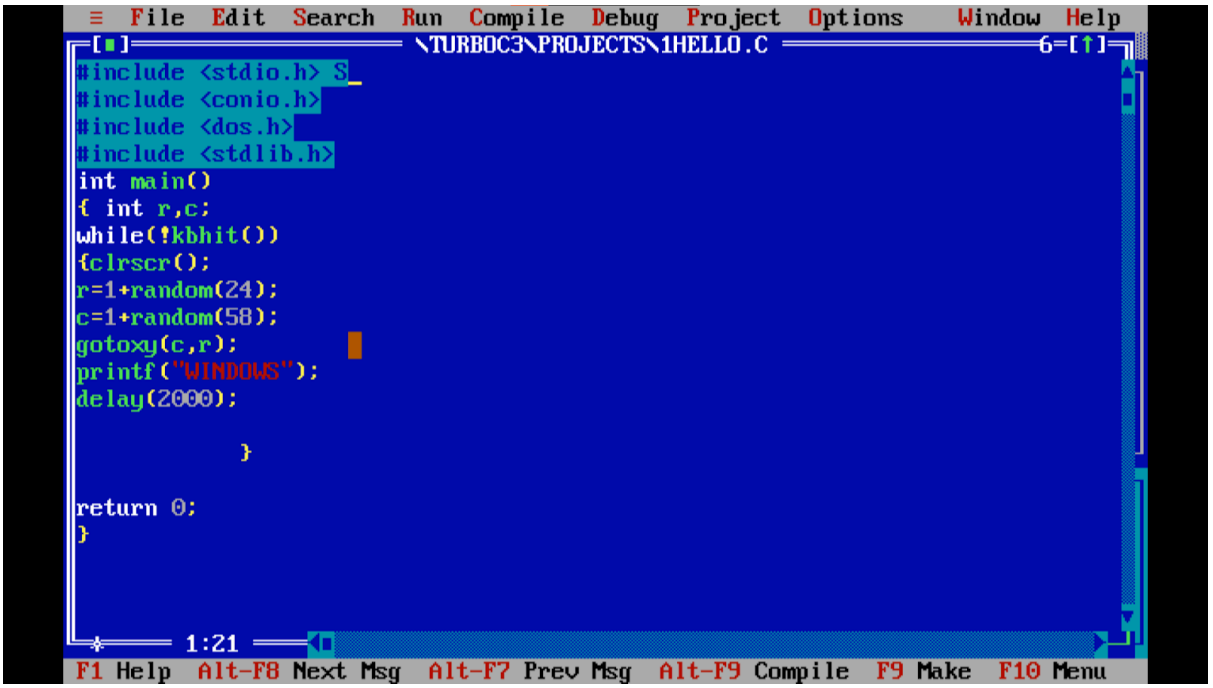
```
#include <iostream>
#include <stdio.h>
#include <cctype>
//introd un text cu lit mici si lit mari care se termina cu spatiu. aflati nr de lit, vocale si consoane si sa se afis sirul cu lit mari si lit mici


int main() {

    char s[256];
    int cons=0, voc=0;
    char c;
    int i=0, sp=0;
 >>   gets(s); // citeste un string intreg- nu mai poate fi folos de la c11
>> citit cu scanf din lectia de la rose
    do {
        c= toupper(s[i]);
```

```
            switch(c)
        {
            case 'A':
            case 'E':
            case 'I':
            case 'O':
            case 'U': voc++;
            break;
            case ' ': sp++;
            default: cons++;

        }
        i++;
    }while(s[i]!=NULL);
    printf("in sir sunt %d litere, %d vocale, %d consoane",
i-sp,voc, cons );
    return 0;
}

#include <stdio.h>
#include <cstring>
#include <ctype.h>
int main()
{

    char sir[128];
    scanf ( "%s", sir);
    int letters =0, vowels=0, cons=0;
    //int strlenght= strlen(sir);
    for(int i=0; sir[i]!=' ';i++){
        if(isalpha(sir[i]))
        {
            letters ++;
            switch (toupper(sir[i])){
                case 'A':
                case 'E':
                case 'I':
                case 'O':
                case 'U':
                    vowels++;
                    break;
                default:
                    cons++;
            }

        }
    }
```

```
    printf("litere %d (din care %d vocale si %d consoane) \n",
letters, vowels, cons);
    for(int i=0; sir[i]!=' ';i++) {
        printf("%c", tolower(sir[i]));
    }
    for(int i=0; sir[i]!=' ';i++){
        printf("%c", toupper(sir[i]));
    }

    return 0;
}
```

## LAB 8

1. *Realizati un Screensaver cu textul "WINDOWS" care se deplaseaza aleator pe ecran la 2 sec pana cand se apasa o tasta*




2. **Pozitionati cursorul pe linia 2, coloana 5**

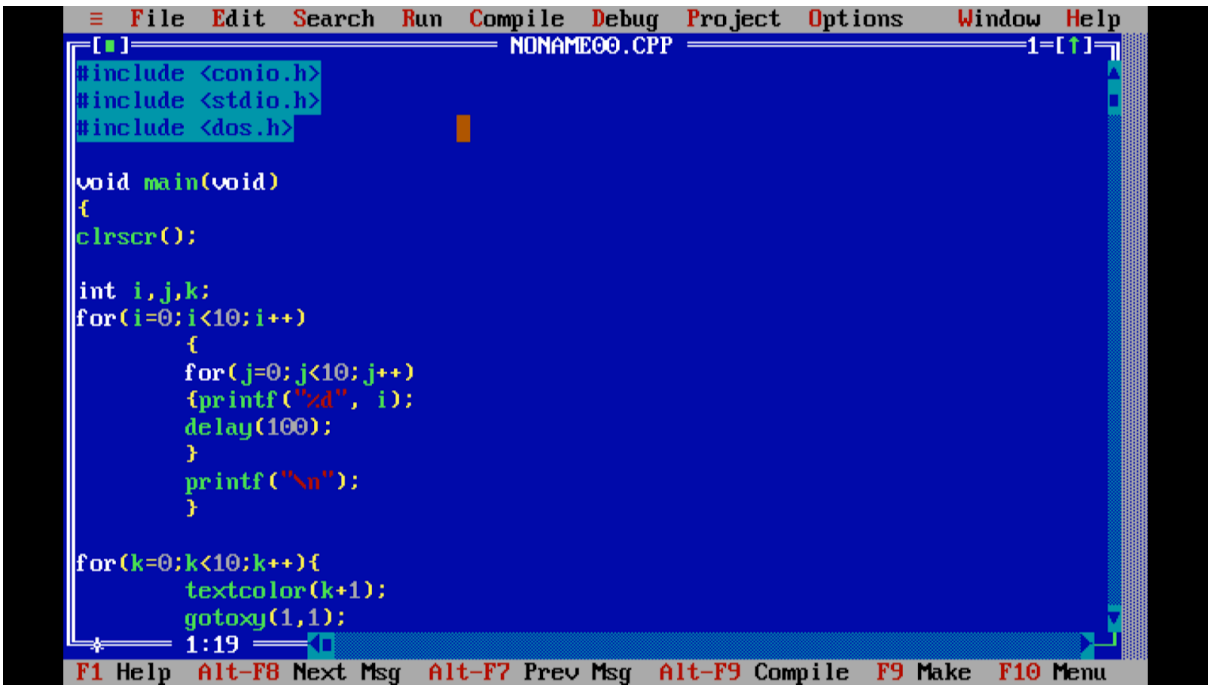
```
#include <conio.h>
#include <stdio.h>

void main(void)

{
gotoxy(5,2); //x-coloana, y-linia
```

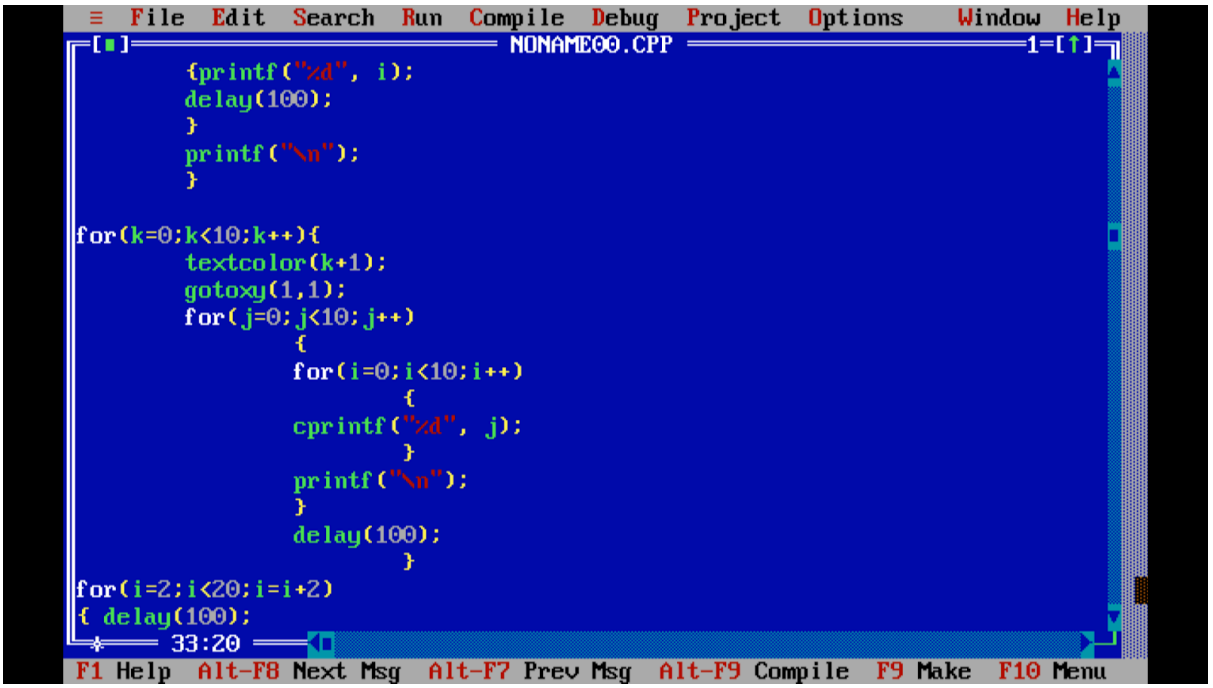
```
}
```

**3. Afisati pe ecran diagonala principala a unui patrat 10x10**


**4. Un program care scrie automat 10 linii de text pe fiecare linie, 10 cifre, resp nr liniei: ex 0 x10, 1 x10…**
**Se scrie fiecare linie cate una la 0.1 s.**
**Apoi dupa 2 secunde la fiecare secunda se sterge cate o linie, de jos in sus, din sec in secunda.**
**Dupa ce ati scris 10 linii de text, modif culoarea textului pt tot blocul, 10 culori, 1/s.**

```
//delay urile din cod nu sunt cele din problema, acelea trebuie schimbate
```




## LAB 9

```
#include <stdio.h>
//  o clepsidra -> fara delay :)))
#define D 5
int main() {
    char m[D][D];
    int i, j;
    for (i = 0; i < D; i++) {
```

```
        for (j = 0; j < D; j++) {
            if (i == j) {
                m[i][j] = '\\';
                printf("%c", m[i][j]);
            } else if (i + j == D - 1) {
                m[i][j] = '/';
                printf("%c", m[i][j]);
            } else if (j > i && j + i < D - 1) {
                m[i][j] = '*';
                printf("%c", m[i][j]);
            } else {
                m[i][j] = ' ';
                printf("%c", m[i][j]);
            }
        }
        printf("\n");
    }
    printf("\n");
    for (i = 0; i < (D + 1) / 2; i++) {
        for (j = 0; j < D ; j++) {
            if (i<j && j + i < D - 1) {
                char aux;
                aux = m[i][j];
                m[i][j] = m[D - 1 - i][j];
                m[D - 1 - i][j] = aux;
            }


        }
        printf("\n");
    }
    for (i = 0; i < D; i++)
    {       for (j = 0; j < D; j++)
            printf("%c", m[i][j]);
        printf("\n");
    }

    return 0;
}
```

## Lab 11

```
#include <stdio.h>
int main()
{
    int lista [3][10], cont[3]={0}, prio, proc, i,j;
    do{
        scanf("%d", &proc);
        if(proc!=0){
            scanf("%d", &prio);
            lista[prio-1][cont[prio-1]++]=proc;
        }

    }while(proc!=0);

    printf("\n");
    for(i=0;i<3;i++)
    for(j=0;j<cont[i];j++)
        printf("%d\n", lista[i][j]);

    return 0;
}
```

## Lab 12

**Un program care asigura gestiunea unui magazin**

```
#include <stdio.h>
#include <string.h>



struct produs {
    char categ[255];
    char tip[255];
    char brand[255];
    int nrbuc;
    int pret;
} prod[20];

int n, categ=0;

void citire(int i) {
    int ok2, j;
```

```
        printf("\nCategorie: ");
        scanf(" %[^\n]",prod[i].categ);
        for(j=0;j<i;j++)
            if(strcmp(prod[i].categ, prod[j].categ)==0) ok2=1;
        if(ok2==0) categ++;

        printf("Tip: ");
        scanf(" %[^\n]", prod[i].tip);
        printf("Brand: ");
        scanf(" %[^\n]", prod[i].brand);
        printf("Pret: ");
        scanf("%d", &prod[i].pret);
        printf("Numar Bucati: ");
        scanf("%d", &prod[i].nrbuc);



}

void afisare(int i) {
    printf("%s\n", prod[i].categ);
    printf("%s\n", prod[i].tip);
    printf("%s\n", prod[i].brand);
    printf("%d\n", prod[i].pret);
    printf("%d\n", prod[i].nrbuc);
}

int main() {
    int ok1, i, ok, j;
    char brand[255];
    do {
        printf("\nMeniu:\n1-Introducere\n2-Listare\n3-Afisare stoc
critic\n4-Cauta Brand\nIntroduceti optiunea:");
        scanf("%d", &ok1);
        switch (ok1) {
            case 1:
            {

                do {

                    citire(i);
                    printf("Doriti sa introduceti un alt produs?
1-Da/0-Nu ");
                    scanf("%d", &ok1);
                    i++;
                } while (ok1 == 1);
                n = i;
            }
```

```
                break;
            case 2:
                for(i=0;i<categ;i++) {

                    printf("%s\n", prod[i].categ);
                    for (j = 0; j < n; j++) {
                        if (strcmp(prod[i].categ, prod[j].categ)
== 0) {
                            printf("%s\n", prod[j].tip);
                            printf("%s\n", prod[j].brand);
                            printf("%d\n", prod[j].pret);
                            printf("%d\n", prod[j].nrbuc);
                        }

                    }
                    printf("\n");
                }

                break;
            case 3:
            {
                ok=0;

                for (i = 0; i < n; i++) {
                    if (prod[i].nrbuc < 2)
                    {
                        afisare(i);
                        ok=1;
                    }
                }
                if(ok==0) printf("Nu au fost gasite produse cu
stoc critic");
            }
                break;
            case 4:
            {
                do{
                    printf("\nIntroduceti Brand-ul: ");
                    scanf("%s", brand);
                    ok=0;
                    for(i=0;i<=n;i++)
                    {
                        if(strcmp(brand,prod[i].brand)==0) {
                            afisare(i);
                            ok=1;
                        }
                    }
```

```
                    if(ok==0) printf("Nu s-a gasit brand-ul
dorit!");
                    printf("\nDoriti sa cautati alt Brand? Da-1/
Nu-0 ");
                    scanf("%d", &ok);
                }while(ok==1);
            }
                break;
        }
        printf("\nDoriti inca o executare? 1-Da/0-Nu ");
        scanf("%d", &ok1);

    } while (ok1 == 1);
    return 0;
}
```

Colocviu 2022

```
#include <stdio.h>
#include <string.h>

struct locatie {
    char strada[255];
    int numar;
    char localitate[255];
    char judet[255];
};

struct unitate{
    char tip[255];
    int nrelevi;
    int nrclase;
    struct locatie locatie;

}scoala[20];

void citire(int i)
{
    printf("\nScoala %d", i + 1);
    printf("\nTip: ");
    scanf(" %[^\n]", scoala[i].tip);
    printf("Numar elevi: ");
    scanf("%d", &scoala[i].nrelevi);
    printf("Numar clase: ");
    scanf("%d", &scoala[i].nrclase);
```

```
    printf("Locatie \nStrada: ");
    scanf(" %[^\n]", scoala[i].locatie.strada);
    printf("Numar: ");
    scanf("%d", &scoala[i].locatie.numar);
    printf("Localitate: ");
    scanf(" %[^\n]", scoala[i].locatie.localitate);
    printf("Judet: ");
    scanf(" %[^\n]", scoala[i].locatie.judet);

}
void afisare(int i)
{

    printf("\nTip: %s"
           "\nNumar elevi: %d"
           "\nNumar clase: %d"
           "\nLocatie"
           "\nStrada: %s"
           "\nNumar: %d"
           "\nLocalitate: %s"
           "\nJudet: %s",
           scoala[i].tip,
           scoala[i].nrelevi,
           scoala[i].nrclase,
           scoala[i].locatie.strada,
           scoala[i].locatie.numar,
           scoala[i].locatie.localitate,
           scoala[i].locatie.judet);

}

int main()
{int ok1, nrscoli, i, ok, nrel=0, nrscl=0;

    char scola[255], localit[255];
    do {
        printf("\nMeniu:\n"
               "1-Introducere date\n"
               "2-Situatie Globala\n"
               "3-Numarul de scoli per tip\n"
               "4-Numar elevi intr-o scoala\n"
               "5-Numar clase intr-o scoala\n"
               "6-Elevi intr-o localitate\n"
               "7-Numar mediu de elevi intr-un ciclu\n"
               "Introduceti optiunea: ");
        scanf("%d", &ok1);
        switch (ok1) {
            case 1: {
```

```
                printf("Introduceti numarul de scoli: ");
                scanf("%d", &nrscoli);
                for (i = 0; i < nrscoli; i++)
                    citire(i);
            }
                break;
            case 2: {
                printf("\nLista tuturor scolilor:");
                for (i = 0; i < nrscoli; i++) {
                    printf("\nInformatii scoala %d", i + 1);
                    afisare(i);
                }
            }
                break;
            case 3: {
                ok = 0;
                printf("\nCe tip de scoala vreti sa numarati? ");
                scanf("%s", scola);
                for (i = 0; i < nrscoli; i++) {
                    if (strcmp(scola, scoala[i].tip) == 0) {
                        afisare(i);
                        ok++;
                    }
                }
                if (ok == 0) printf("\nNu exista scoli de tip%s!",
scola);
                else printf("\nExista %d scoli de tip %s", ok,
scola);
            }
                break;
            case 4: {
                ok = 0;
                printf("\nCe tip de scoala vreti sa numarati? ");
                scanf("%s", scola);
                for (i = 0; i < nrscoli; i++) {
                    if (strcmp(scola, scoala[i].tip) == 0) {
                        nrel = nrel + scoala[i].nrelevi;
                        ok = 1;
                    }
                }
                if (ok == 0) printf("Nu exista elevi in scolile de
tip %s!", scola);
                else printf("\nNumarul de elevi din scolile de tip
%s: %d", scola, nrel);
            }
                break;
            case 5:
            {printf("\nCe tip de scoala vreti sa numarati? ");
```

```
                scanf("%s", scola);
                for (i = 0; i < nrscoli; i++) {
                    if (strcmp(scola, scoala[i].tip) == 0) {
                        nrel = nrel + scoala[i].nrclase;
                        ok = 1;
                    }
                }
                if (ok == 0) printf("Nu exista clase in scolile de
tip %s!", scola);
                else printf("\nNumarul de clase din scolile de tip
%s: %d", scola, nrel);
              }
              break;
            case 6:
            {
                printf("\n Introduceti tipul de invatamant:");
                scanf("%s", scola);

                for (i = 0; i < nrscoli; i++) {
                    if (strcmp(scola, scoala[i].tip) == 0 &&
strcmp(localit,scoala[i].locatie.localitate)==0) {
                        nrel = nrel + scoala[i].nrelevi;
                        ok = 1;
                    }
                }
                if (ok == 0) printf("Nu exista clase in scolile de
tip %s!", scola);
                else printf("\nNumarul de clase din scolile de tip
%s: %d", scola, nrel);
            }
            break;
            case 7:
            {   ok=0;
                nrscl=0;
                printf("\nIntroduceti tipul de invatamant:");
                scanf("%s", scola);
                for (i = 0; i < nrscoli; i++) {
                    if (strcmp(scola, scoala[i].tip) == 0) {
                        nrel = nrel + scoala[i].nrelevi;
                        nrscl++;
                        ok = 1;
                    }
                }
                if (ok == 0) printf("Nu exista elevi in scolile de
tip %s!", scola);
                else printf("Numarul mediu de elevi din scolile de
tip %s este: %d", scola, nrel/nrscl );
```

```
            }
            break;

        }

        printf("\nDoriti inca o executare? Da-1/ Nu-0 ");
        scanf("%d", &ok1);
    }while(ok1==1);

return 0;
}
```

**Sa se introd 25 de nr:**

```
#include <stdio.h>
#include <cstdlib>
// introd de la tastatura 25 de nr
#define D 25
int main() {
int i, n[D], maxi=-100000, contor, ok, ok1=1;
//citire
do {


    printf("Meniu: "
           "\n1-Introducere"
           "\n2-Afisare val maxima"
           "\n3-Suma primul+ultimul"
           "\n4-Diferenta maxim-primul"
           "\n5-Introducere Serie noua"
           "\n6-Iesire"
           "\nIntroduceti optiunea:");
    scanf("%d", &ok);
    switch (ok) {
        case 1:
            printf("Citire (pana la introducerea lui 0): ");
            for (i = 0; i < D; i++) {
                scanf("%d", &n[i]);
                if (n[i] == 0) break;
            }
            contor = i;

            break;
        case 2:
            for (i = 0; i < contor; i++) {
                if (maxi < n[i]) maxi = n[i];
            }
```

```
            printf("Maximul este: %d", maxi);
            break;
        case 3:
            printf("Suma primul + ultimul este: %d", n[0] +
n[contor - 1]);
            break;
        case 4:
            printf("Diferenta maxim- primul: %d", maxi - n[0]);
            break;
        case 5:
            printf("Citire (pana la introducerea lui 0): ");
            for (i = 0; i < D; i++) {
                scanf("%d", &n[i]);
                if (n[i] == 0) break;
            }
            contor = i;
        case 6: ok1=0;


    }
    if(ok1==0) break;
    printf("\nDoriti inca o executare? Da-1/ Nu-0 ");
    scanf("%d", &ok);
}while(ok==1 && ok1==1);
    printf("la revedere");
    return 0;
}
```

**Se citesc 10 nr intregi**

```
#include <stdio.h>

int main() {
    // se citesc 10 nr intregi cuprinse intre 1 si 4
    int ok1, n[10], i, contor = 0, a[4]={0,0,0,0}, maxi = -1000,
maxi1, mini = 1000, mini1;

    do {
        printf("Meniu"
               "\n1-Introducere"
               "\n2-Cate intrari pentru fiecare numar"
               "\n3-Numarul maxim de intrari si val coresp"
               "\n4-Numarul minim de intrari si val coresp"
               "\n5-Introducere serie noua"
               "\n6-Iesire"
               "\nIntroduceti optiunea: ");
        scanf("%d", &ok1);
```

```
        switch (ok1) {
            case 1: {
                for (i = 0; i < 10; i++) {

                    printf("n[%d]= ", i+1);
                    scanf("%d", &n[i]);
                }
            }
                break;
            case 2:
                for (i = 0; i < 10; i++)
                    switch (n[i]) {
                        case 1:
                            a[0]++;
                            break;
                        case 2:
                            a[1]++;
                            break;
                        case 3:
                            a[2]++;
                            break;
                        case 4:
                            a[3]++;
                            break;
                    }
                printf("\nPentru 1 sunt %d aparitii"
                       "\nPentru 2 sunt %d aparitii"
                       "\nPentru 3 sunt %d aparitii"
                       "\nPentru 4 sunt %d aparitii", a[0], a[1],
a[2], a[3]);
                break;
            case 3:
                for (i = 0; i < 4; i++)
                    if (a[i] > maxi) {
                        maxi = a[i];
                        maxi1 = i + 1;
                    }

                printf("Numarul maxim de aparitii este %d si este
pentru valoarea %d", maxi, maxi1);
                break;
            case 4:
                for (i = 0; i < 4; i++)
                    if (a[i] < mini) {
                        mini = a[i];
                        mini1 = i + 1;
                    }
```

```
                printf("Numarul minim de aparitii este %d si este
pentru valoarea %d", mini, mini1);
                break;
            case 5: {
                for (i = 0; i < 10; i++) {

                    printf("n[%d]= ", i+1);
                    scanf("%d", &n[i]);
                }
            }
                break;
            case 6: ok1=0;
                break;
        }
        if(ok1==0) break;
        printf("\nDoriti inca o executare? 1-Da/0-Nu ");
        scanf("%d", &ok1);
    } while (ok1 == 1);

    return 0;
}
```

Se introd de la tastatura 10 cifre 0-9

```
#include <stdio.h>
int main() {

    int i, n[10], a[10] = {0, 0, 0, 0, 0, 0, 0, 0, 0, 0}, j, mini
= 100, maxi = -100, sum = 0, sump = 0,ok;
    float pon=0;
    for (i = 0; i < 10; i++) {
        printf("n[%d]= ", i + 1);
        scanf("%d", &n[i]);
        switch (n[i]) {
            case 0:
                a[0]++;
                break;
            case 1:
                a[1]++;
                break;
            case 2:
                a[2]++;
                break;
            case 3:
                a[3]++;
```

```
            break;
        case 4:
            a[4]++;
            break;
        case 5:
            a[5]++;
            break;
        case 6:
            a[6]++;
            break;
        case 7:
            a[7]++;
            break;
        case 8:
            a[8]++;
            break;
        case 9:
            a[9]++;
            break;
    }
}
// afisare descrescator + pondere
for (j = 9; j >= 0; j--)
    for (i = 0; i < 10; i++) {
        if (n[i] == j) {
            pon=(float)a[n[i]]/10;
            printf("\n%d cu ponderea %f", n[i], pon);
        }
    }
// afisare desc
printf("\n");
for (j = 9; j >= 0; j--)
    for (i = 0; i < 10; i++) {
        if (n[i] == j) {
            printf("%d ", n[i]);
        }
    }
// afisare cu pondere
for (i = 0; i < 10; i++) {
    ok=1;
    for (j = i-1; j <= 0 ; j--)
        if(n[i]==n[j]) ok=0;
    if(ok==0) {
        pon = (float) a[n[i]] / 10;
        printf("\n%d cu ponderea %f", n[i], pon);
    }
}
// cifra cea mai mica
```

```
    for (i = 0; i < 10; i++) {
        if (n[i] < mini) {
            mini = n[i];
        }
    }
    printf("\nMinimul este %d", mini);
    // media ponderata a cifrelor
    for (i = 0; i < 10; i++) {
        sum = sum + n[i] / a[n[i]];
    }
    for (i = 0; i < 10; i++) {
        sump = sump + 1 / a[i];
    }
    printf("\nSuma ponderata: %d", sum);
    printf("\nMedia ponderata: %d", sum / sump);
    return 0;

}
```