

INSTRUMENTATIE VIRTUALA

CURS 6

Reprezentarea grafica a datelor

Grafice de tip Chart, Graph, XY

Variabile alfanumerice (string-uri)

Objective

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- Prezentarea rezultatelor sub forma grafica
- Lucru cu variabile alfanumerice (string-uri)

Grafice (Plotting Data)

4

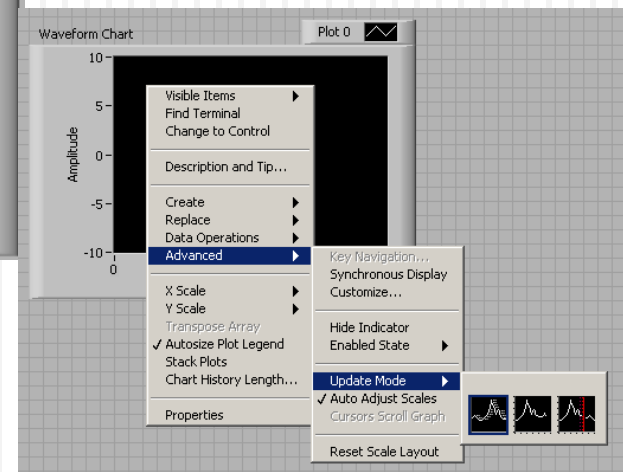
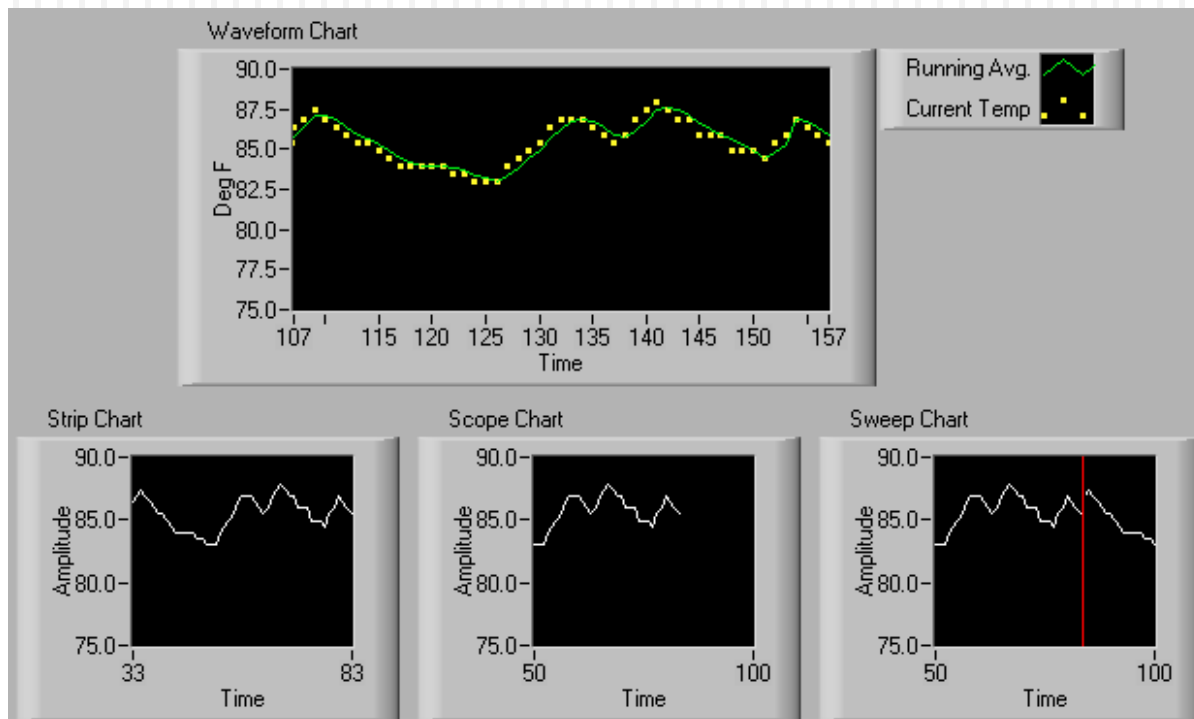
Subiecte

- A. Grafice forma de unda (**Waveform Charts WFC**)
- B. Grafice (**Waveform Graph**) **WFG** si grafice **XY**
- C. Plotari de “intensitate” (**Intensity Plots**)

Waveform Charts WFC

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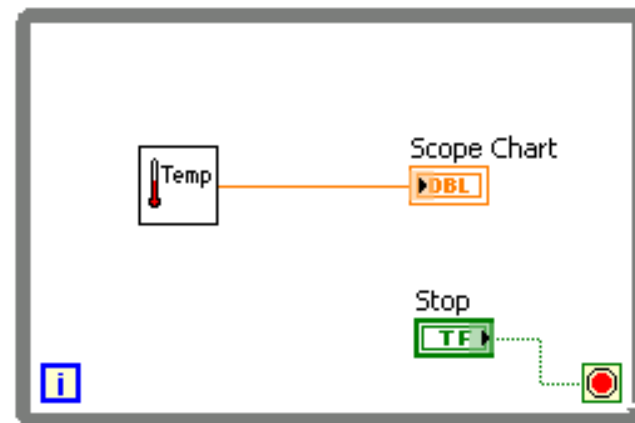
- Se alege din paleta Controls»Graphs and Charts



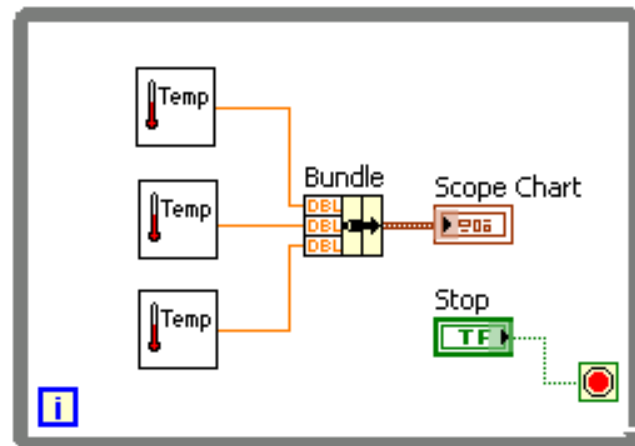
Cablarea indicatoarelor WFC

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Plotare simpla (Single-Plot Chart)



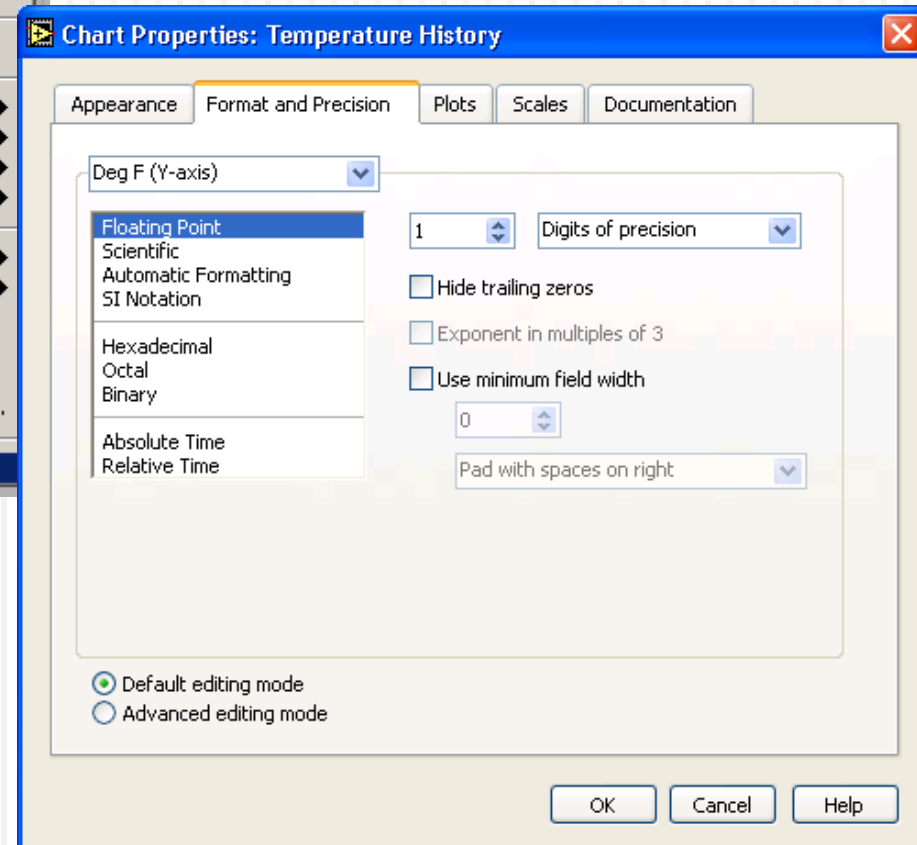
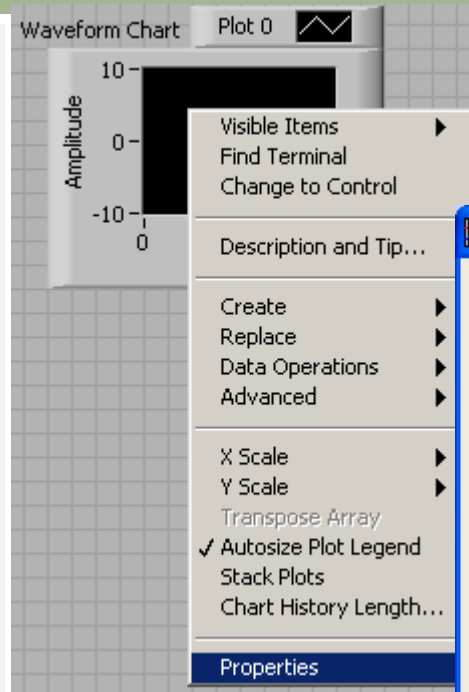
Plotare multipla (Multiple-Plot Chart)



Modificarea proprietatilor graficului

7

- Felul in care arata
- Format si precizie la axe
- Tipul de plot
- Editare scale
- Documentarea graficului

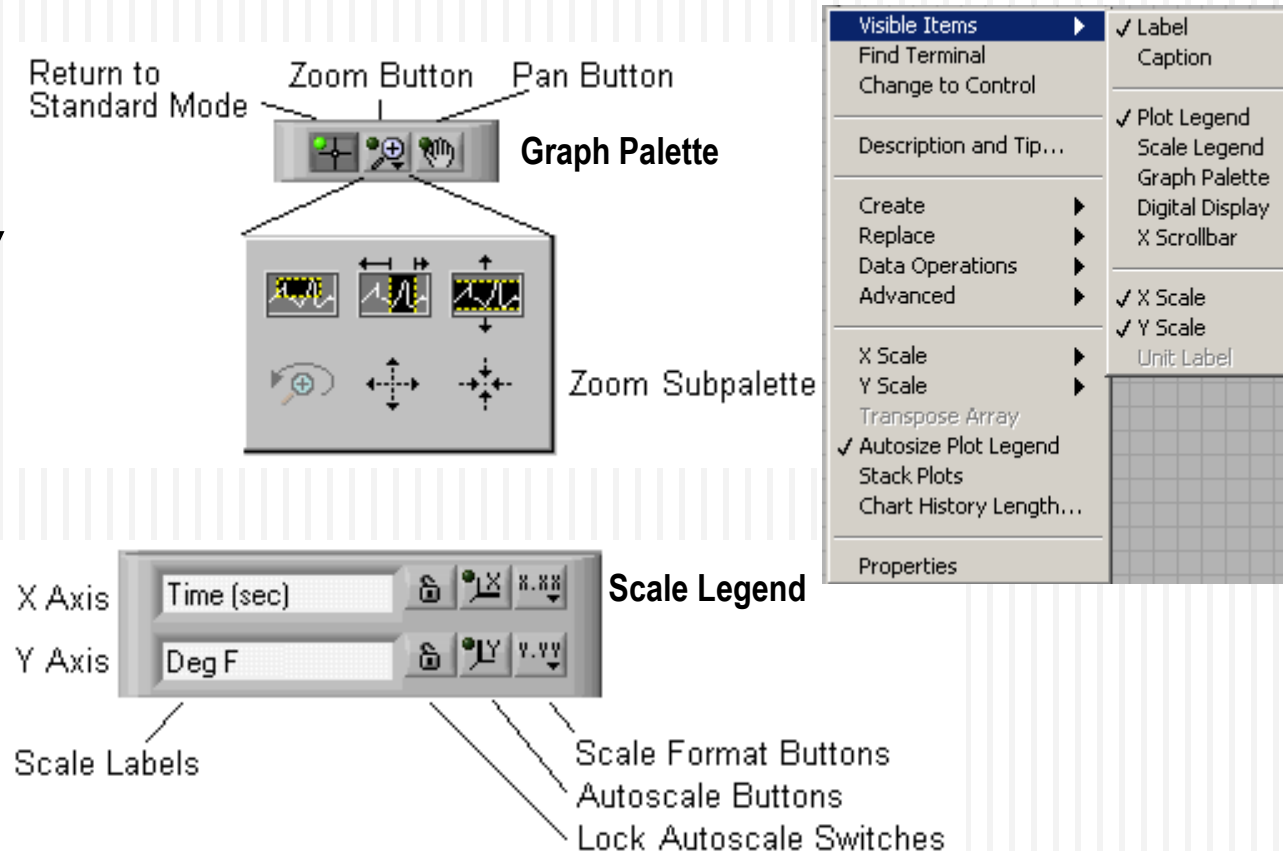


Personalizarea graficului

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Right-click si selectati **Visible Items** pentru a vedea urmatoarele:

- ☐ Plot Legend
- ☐ Digital Display
- ☐ Scrollbar
- ☐ X and Y Scale
- ☐ Graph Palette
- ☐ Scale Legend



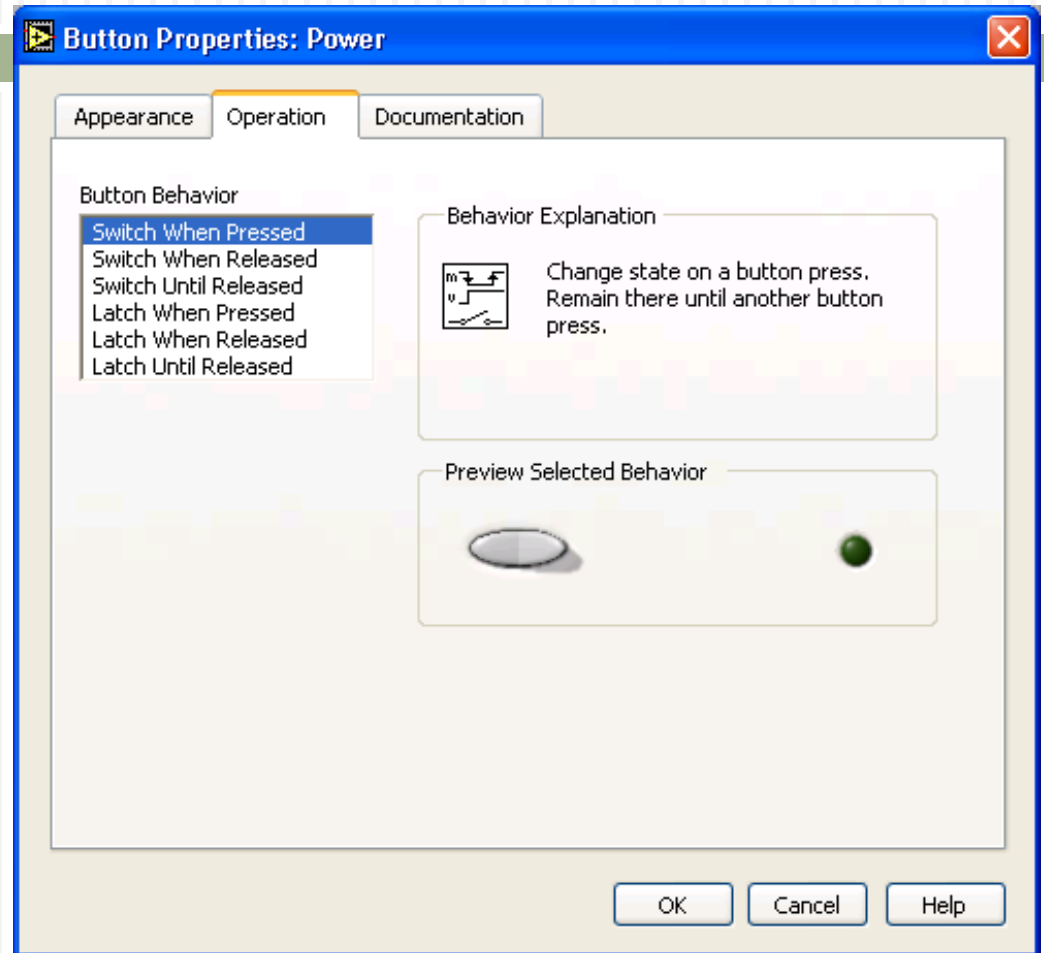
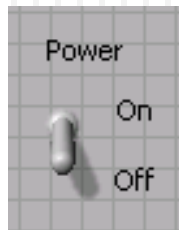
Pregatire: Actiune mecanica

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- Actiunea

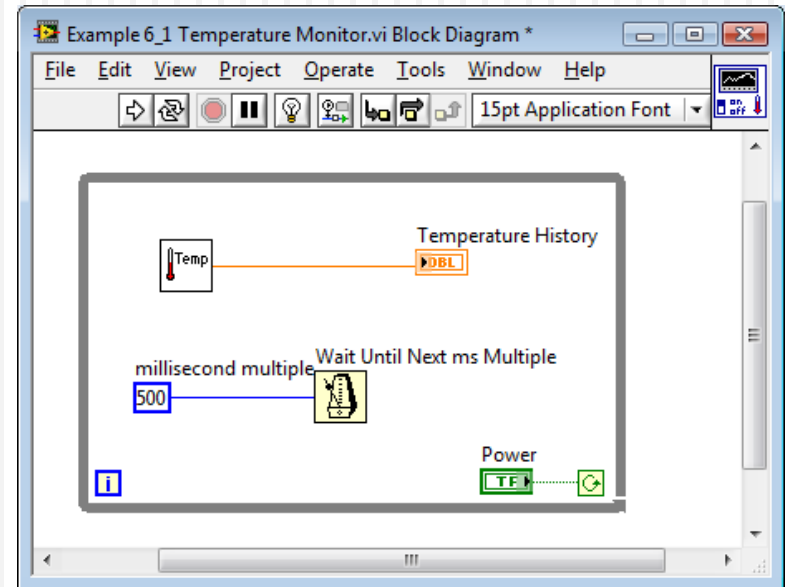
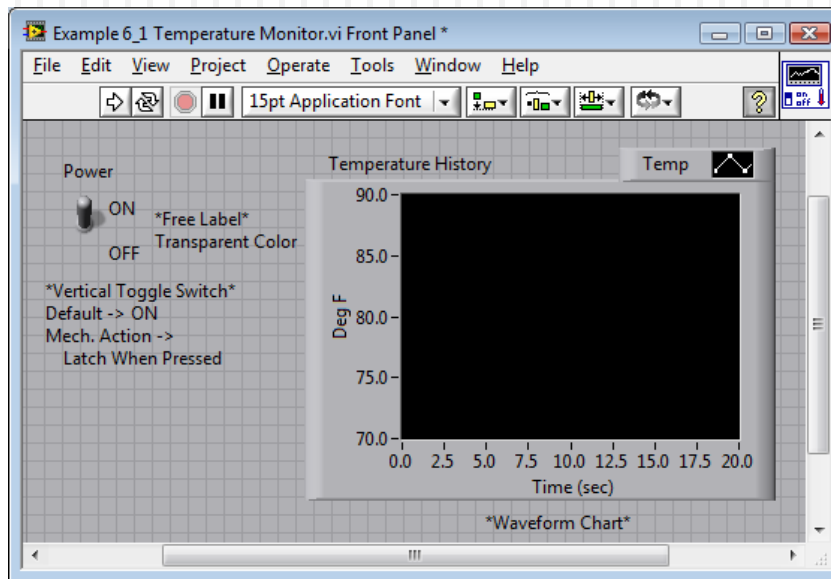
comutatorului,
controlul este facut
pina cind este
schimbat cu mina

- Actiune Latch,
controlul revine la
starea initiala cind
este citit de diagrama



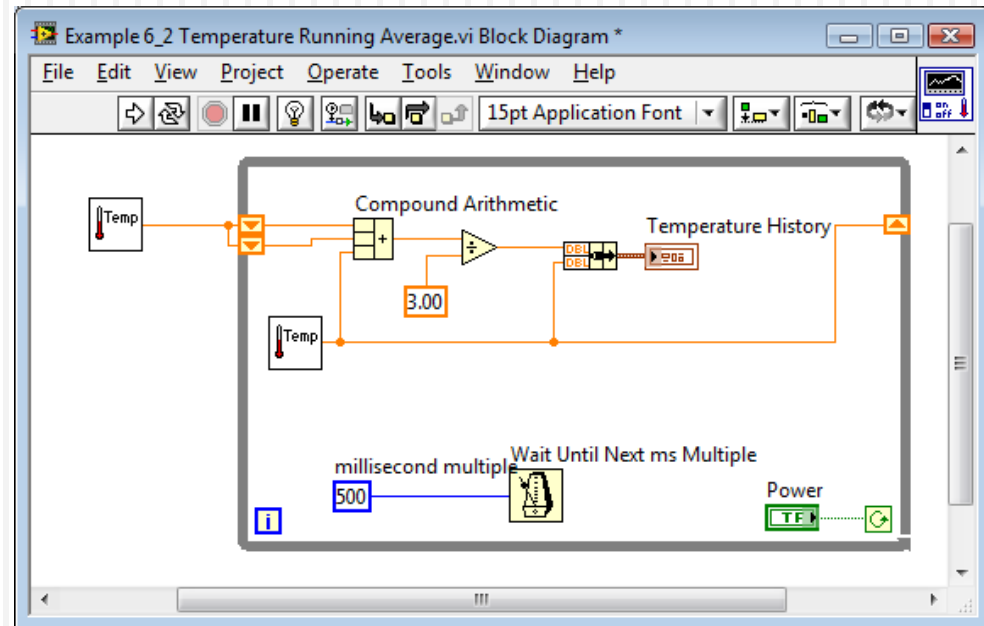
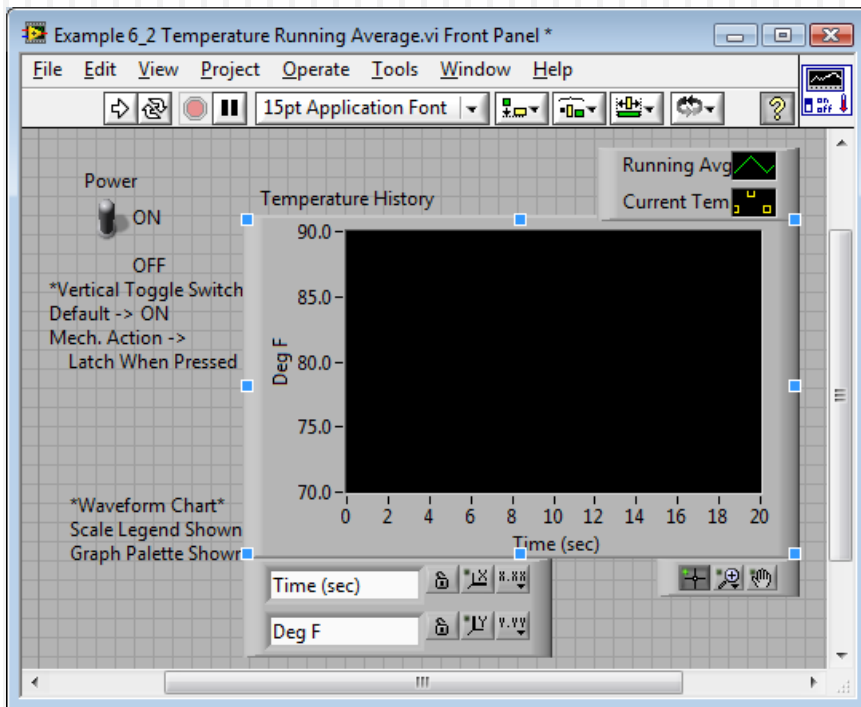
Utilizarea graficelor de tip Chart

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Medierea pe baza registrilor

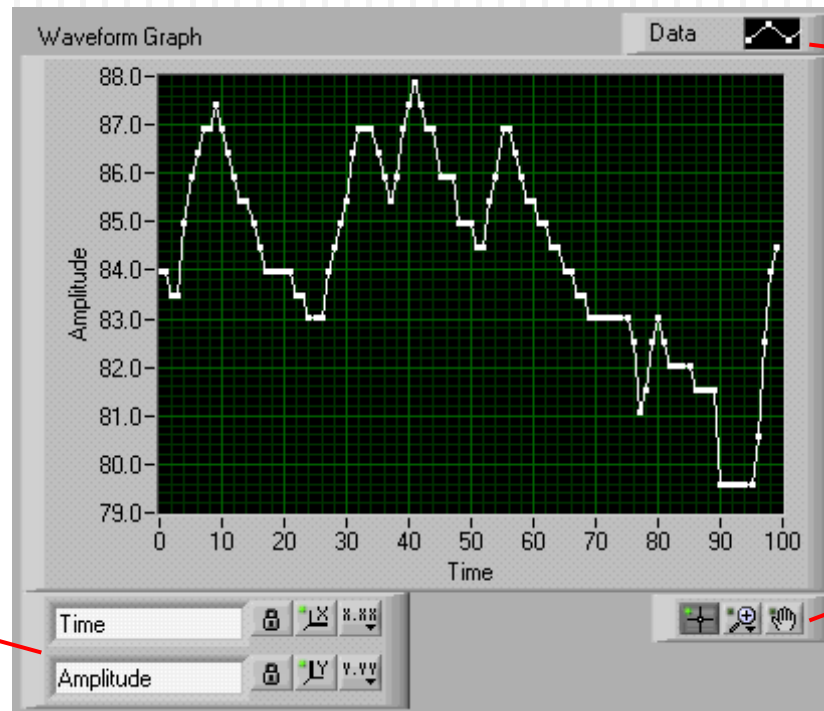
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B. Grafice (WFG si XY)

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- Selectati WFG si XY din subpaleta Graph
- • Waveform Graph – Ploteaza un “array” numere in functie de “index”
- • XY Graph – Ploteaza un “array” Y in functie de altul X



Plot Legend
(point and line styles)

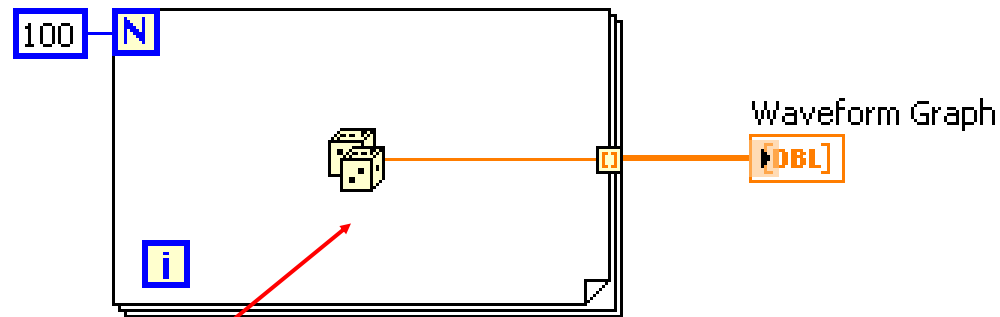
Scale Legend

Graph Palette

Single-Plot Waveform Graphs

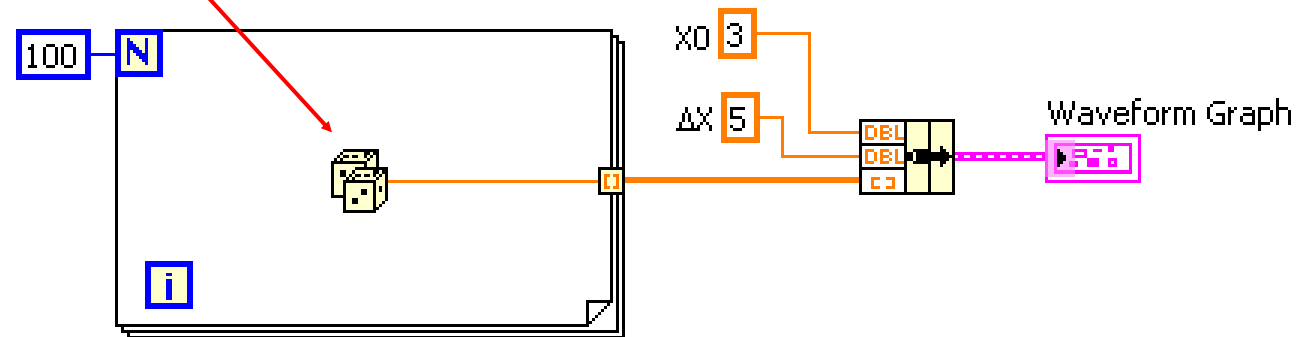
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Axa X
uniforma
Initial X = 0.0
Delta X = 1.0



Generator numere aleatoare

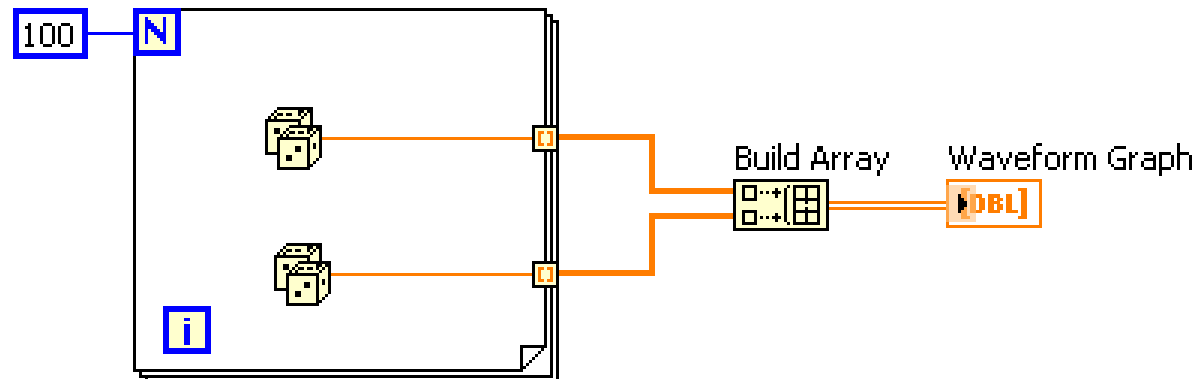
Axa X uniforma
(puteti specifica
cadenta pe X)



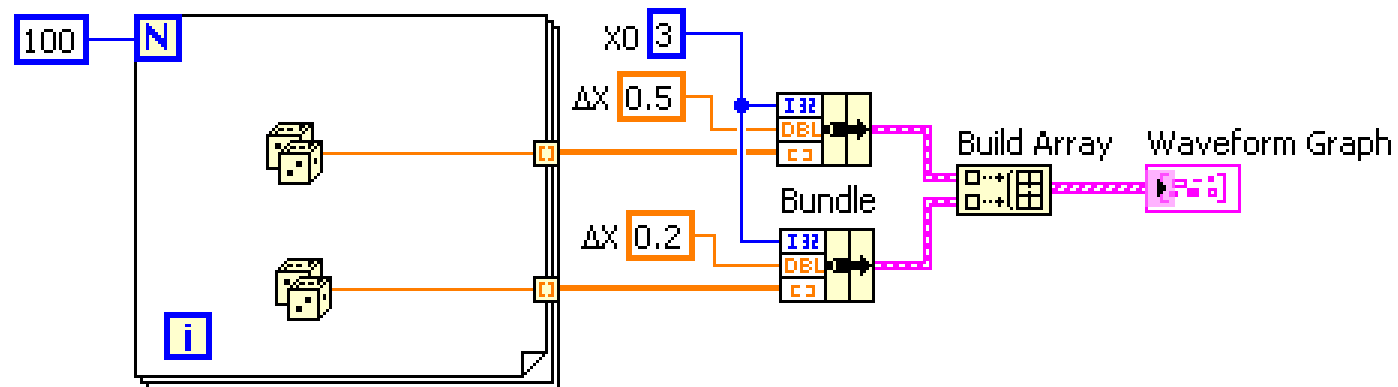
Plotari multiple pe Waveform Graphs

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Fiecare rind
este un plot
separat:
Initial X = 0
Delta X = 1



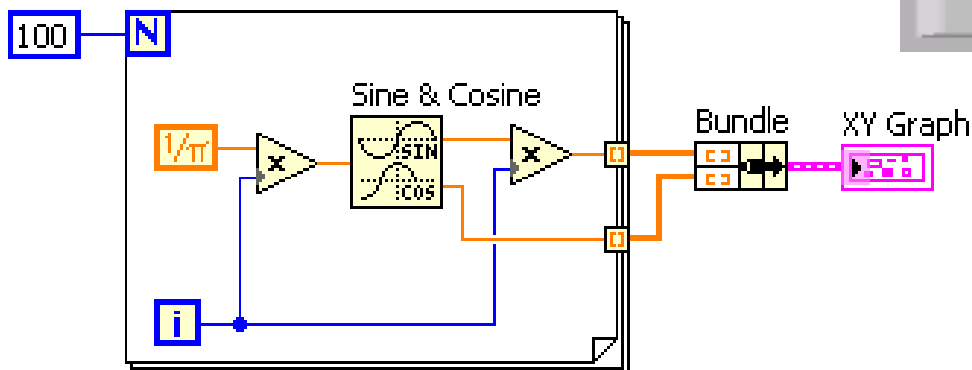
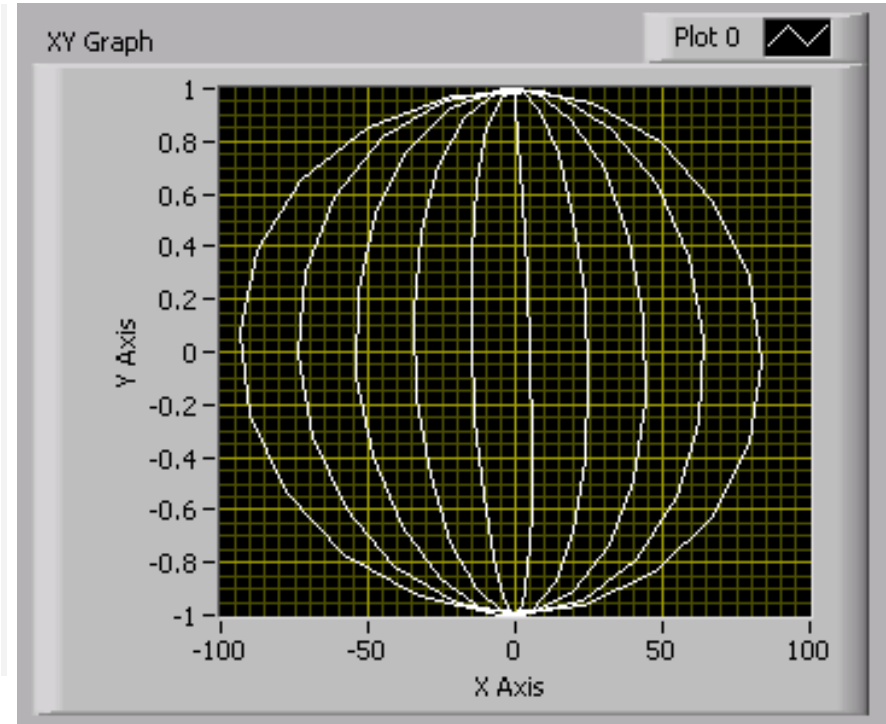
Fiecare rind
este un plot
separat :
se poate
specifica
distanța între
puncte pe X



Grafice XY

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- Axa X este neuniforma
- Putem lua separat date pentru X si pentru Y



Rezumat privind utilizarea graficelor

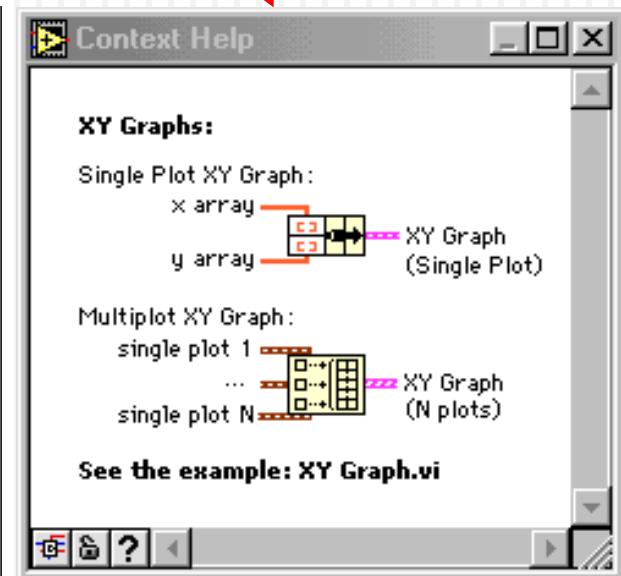
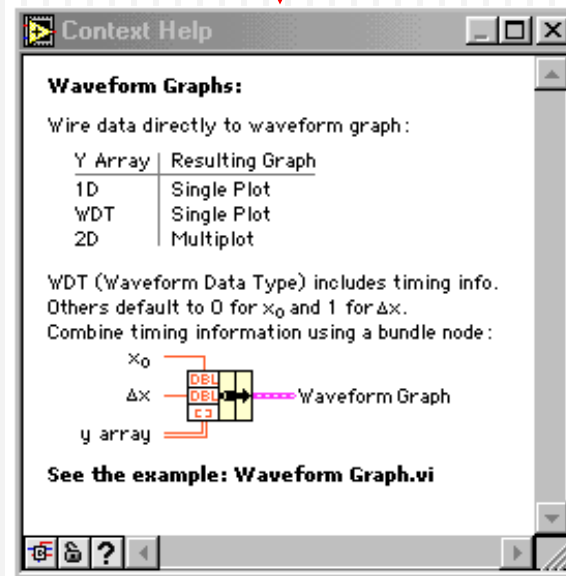
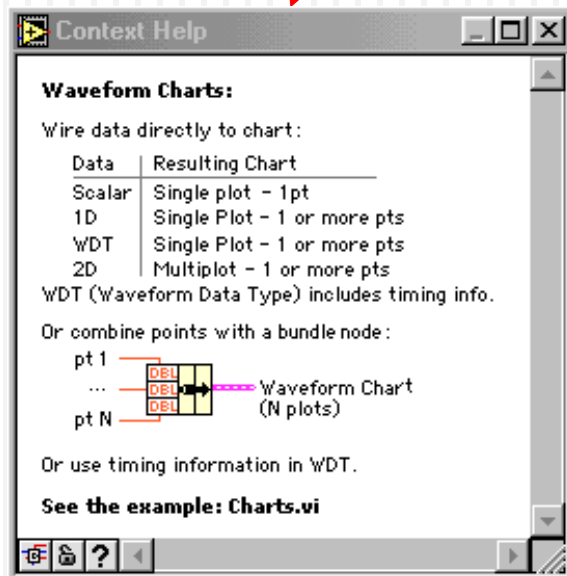
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Utilizarea Help-ului contextual cu diversele grafice

[DBL]

[DBL]

[DBL]



Exercitiul

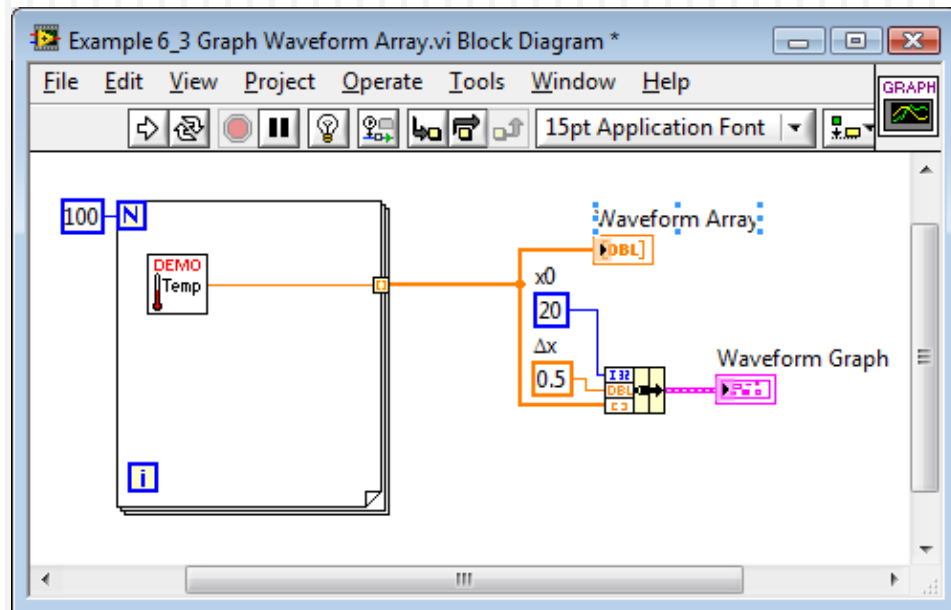
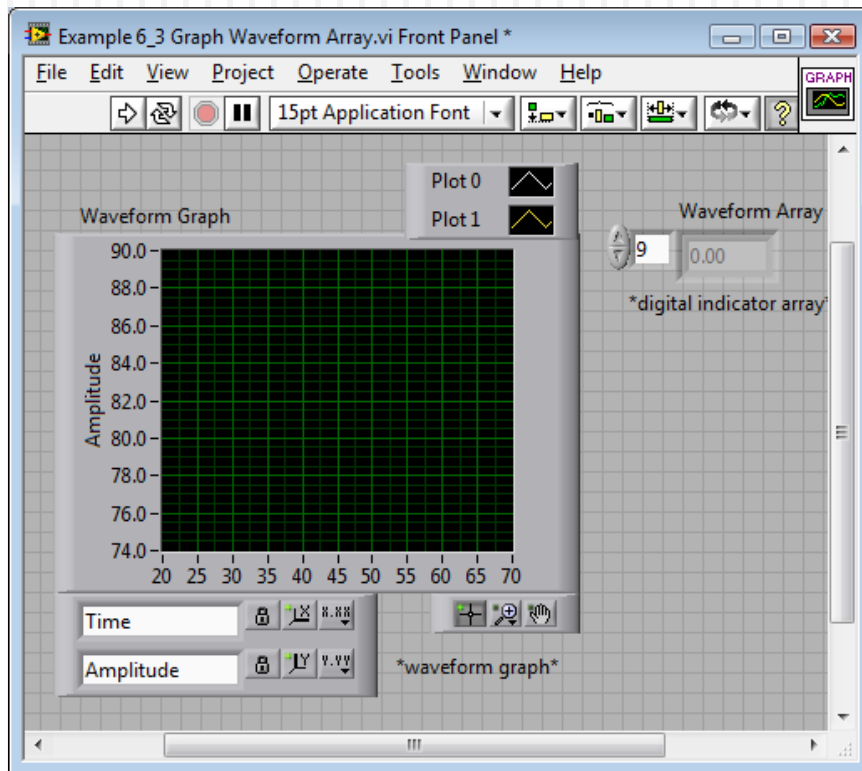
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Graph Waveform Array VI

Realizati un “array” prin auto-indexare cu o bucla FOR si plotati acest array pe un Wave Form Graph WFG.

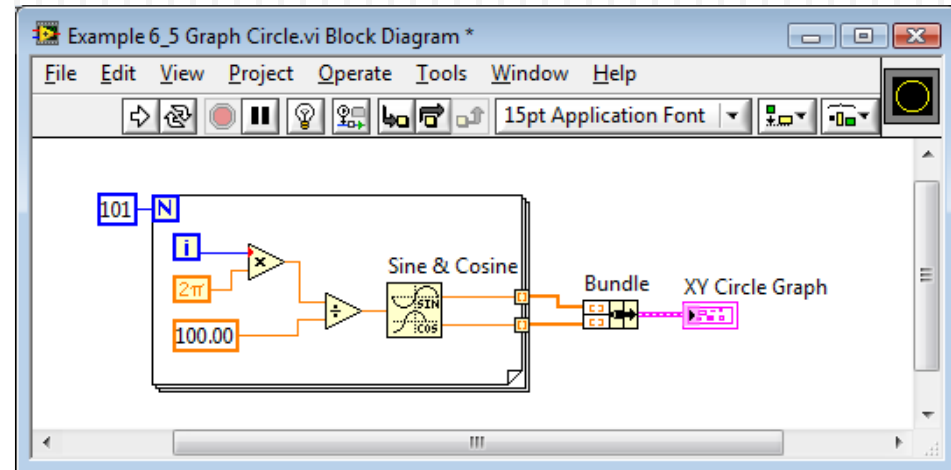
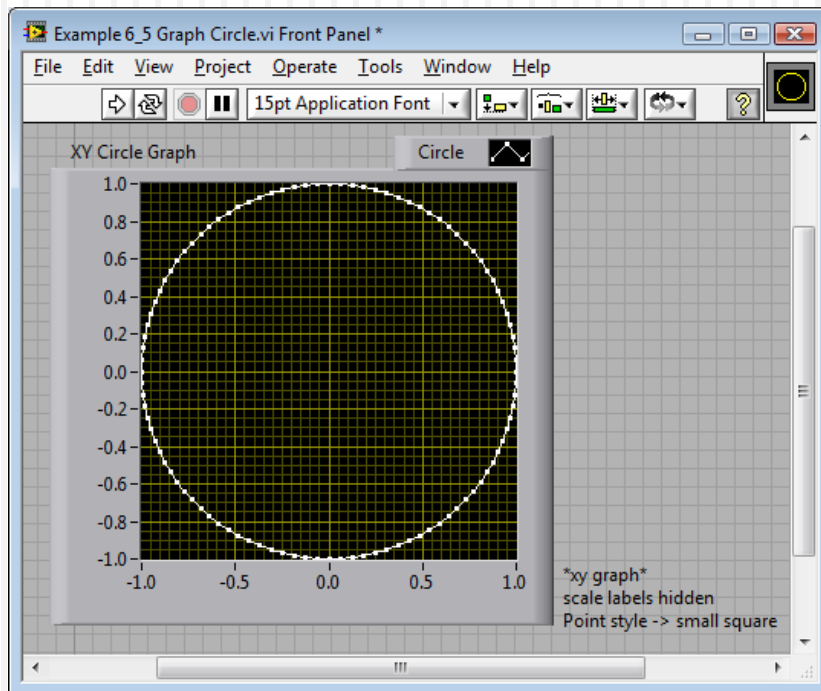
Waveform Graph

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Exercitiul Graph Circle VI

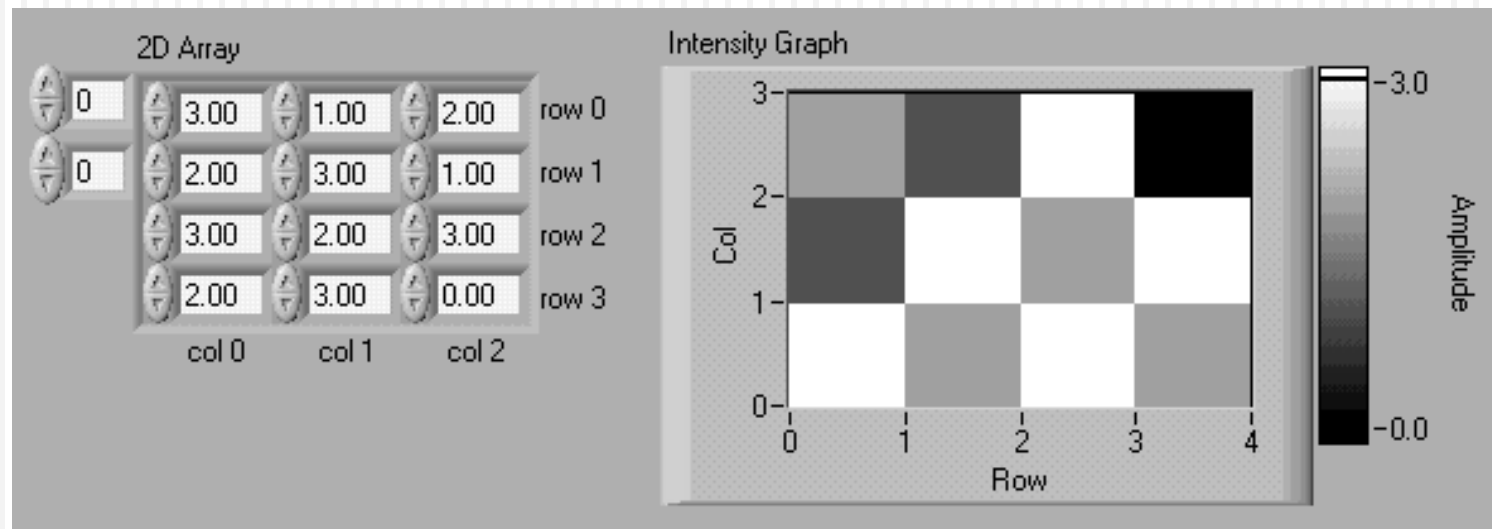
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Plotari de tip: Intensity Plots

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- Tehnologie utila in plotarea ariilor de teren, nivelelor de temperatura, analiza spectrala si procesarea de imagine.
- Datele plotate sunt “2D array” de numere; fiecare numar reprezinta o culoare
- Folositi aceasta optiune pentru a seta si prezentat mapari codate in culoare
- Cursorul de asemenea adauga o dimensiune.



Strings and File I/O

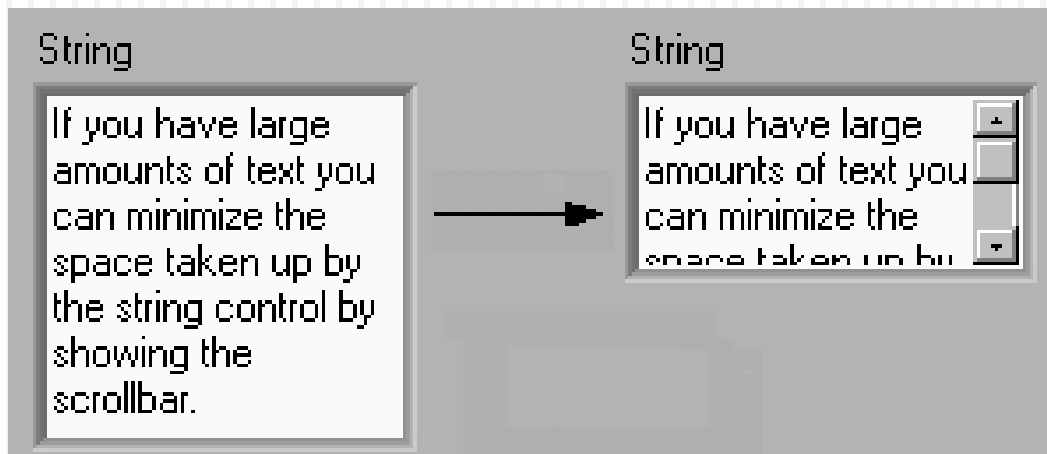
Subiecte

1. Controale si Indicatoare de **String**
2. Functii de **String**
3. Operatii **I/O** cu Fisiere
4. VI-uri de nivel inalt **I/O** cu Fisiere
5. VI-uri de nivel jos **I/O** cu Fisiere
6. Formatarea fisierelor text pentru “spreadsheets”

1. Siruri: Strings

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- Un string este un sir de caractere displayable (ASCII)
- Au multe aplicatii: afisarea de mesaje, control de instrumente, operatii I/O cu fisiere, etc.
- Controalele/Indicatoarele de string se gasesc in subpaleta Controls»String



Moduri de afisare pentru String

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Normal display



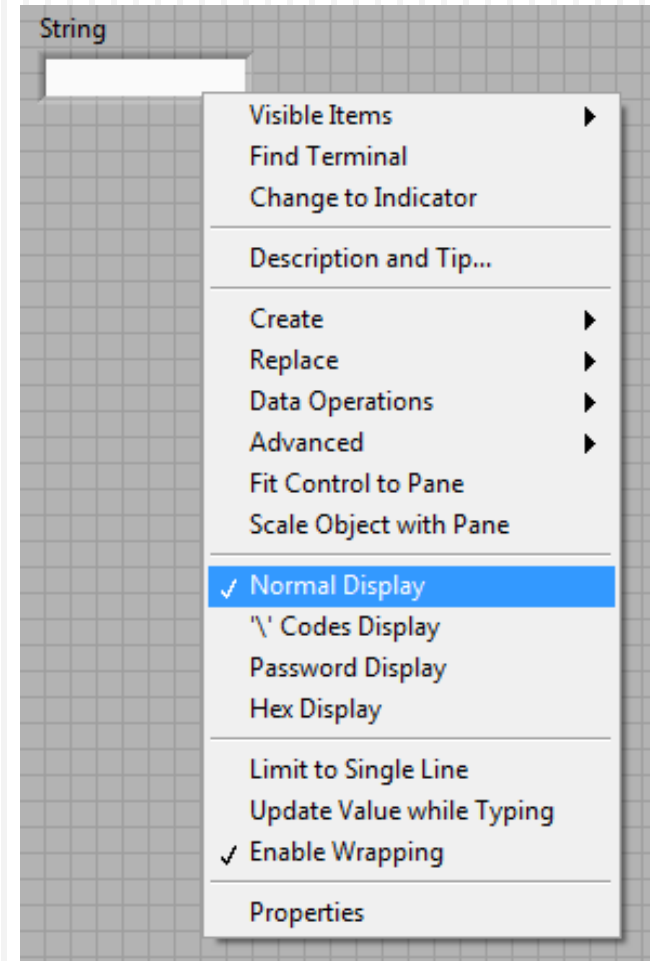
\ code display



Password display



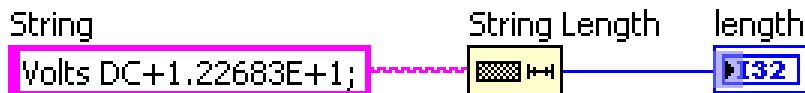
Hex display



2. Functii de String

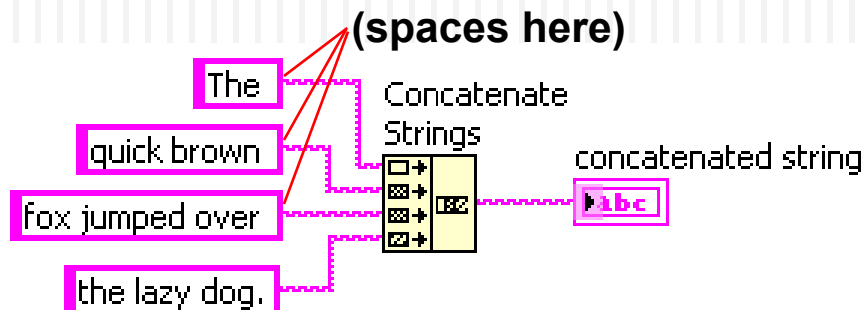
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String Length



length
20

Concatenate Strings

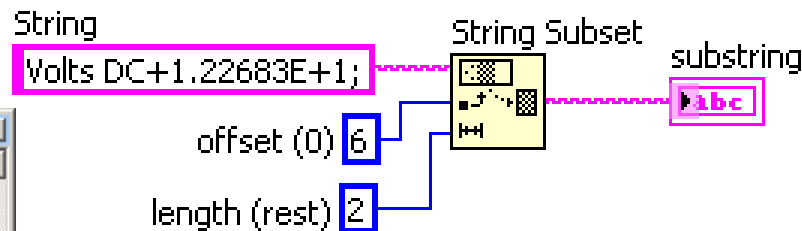
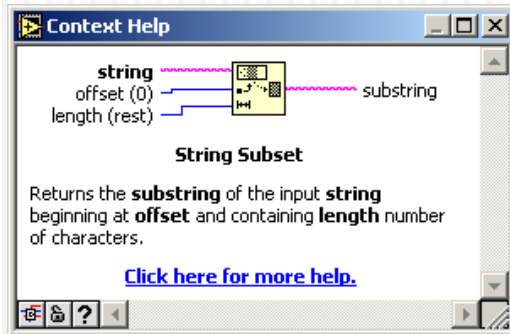


concatenated string
The quick brown fox
jumped over the lazy dog.

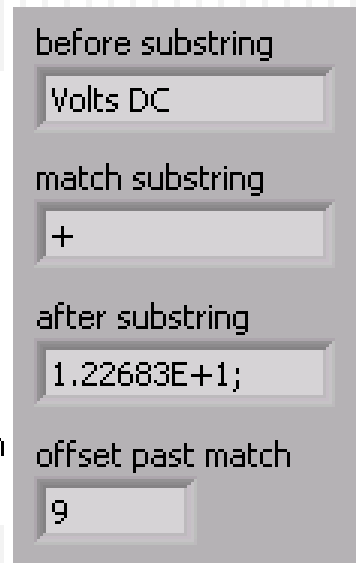
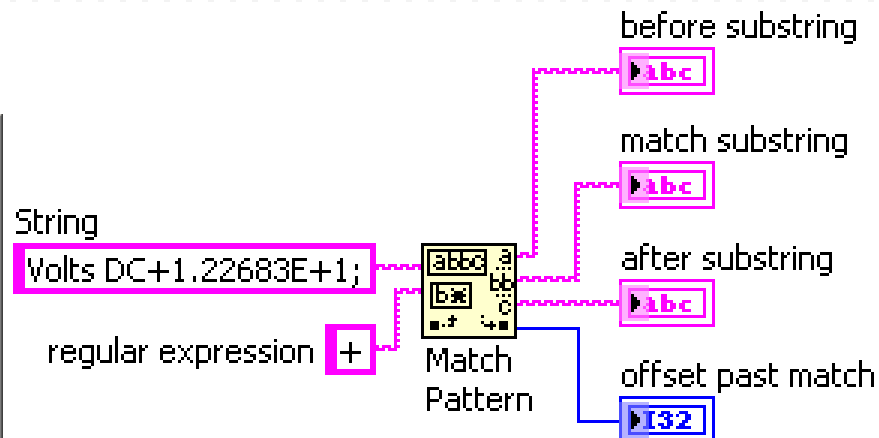
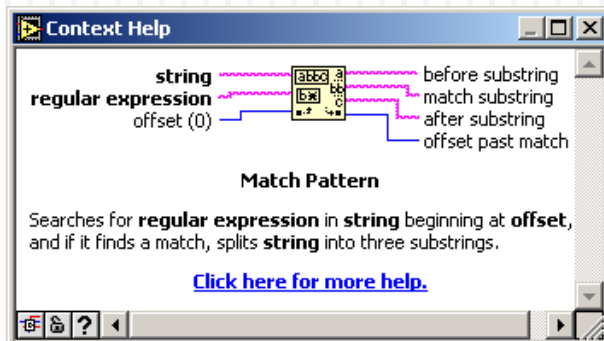
Functii de String

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String Subset

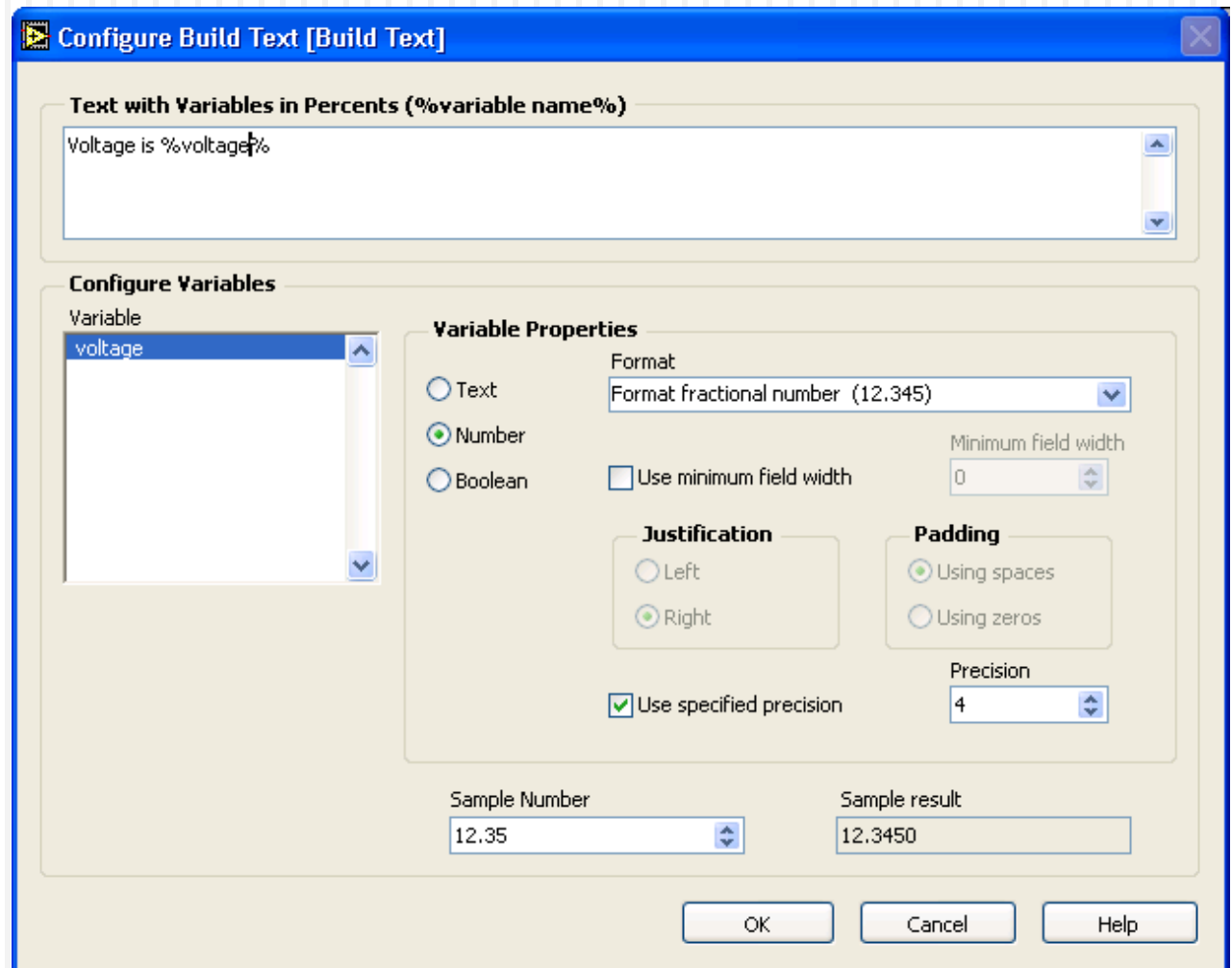
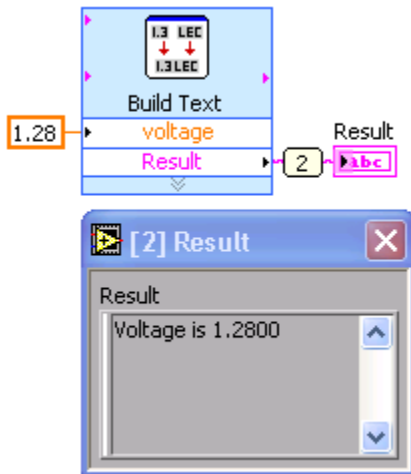


Match Pattern



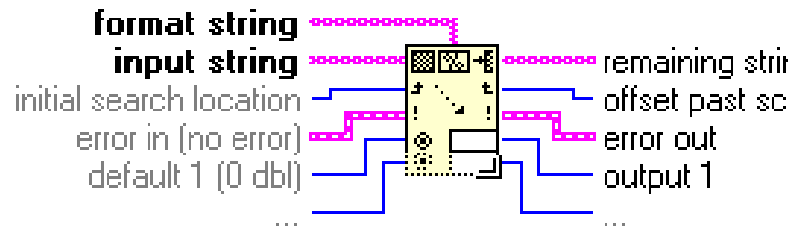
Conversione da numero a string: Build String

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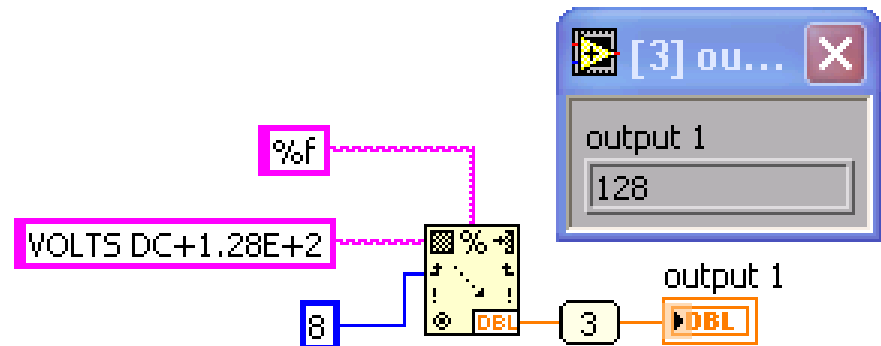


Conversia string la numar: Scan From String

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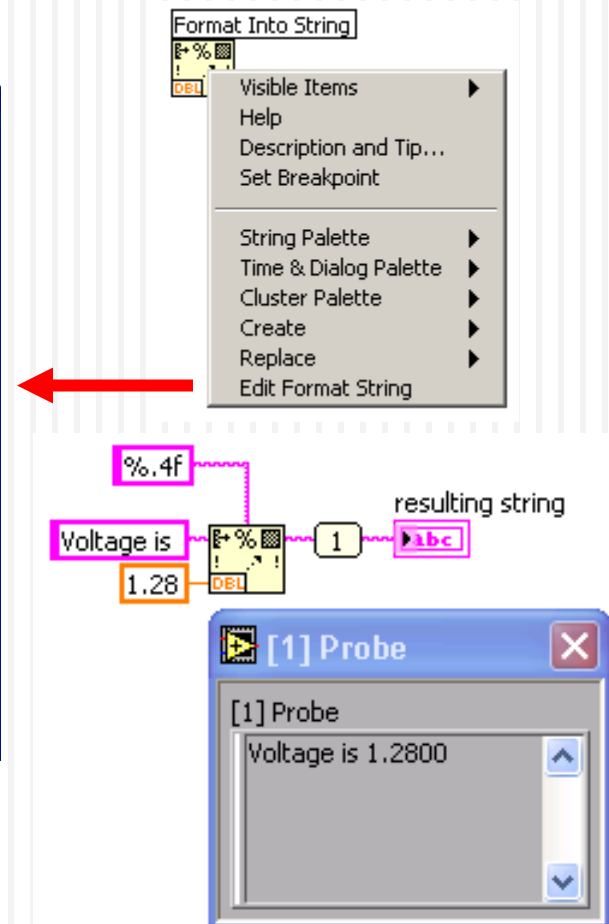
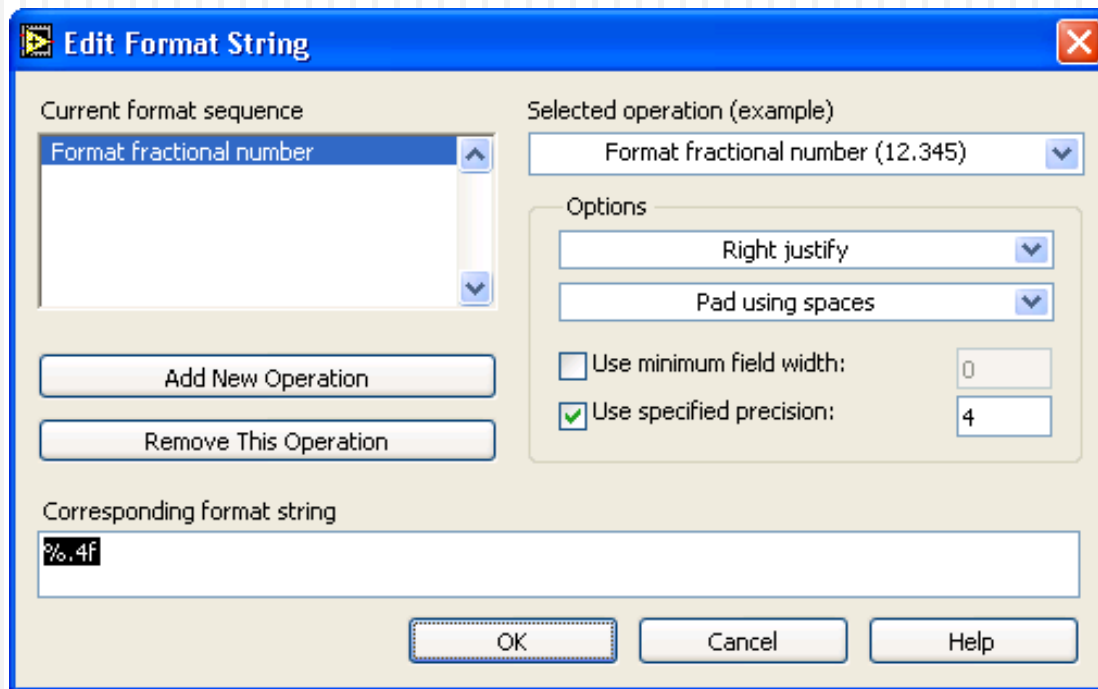
Scan From String



Editor pentru Format String

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Disponibil cu functiile Format into String si Scan From String



Exercitiu

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Create String VI

Folositi functiile Build String, Scan From String si String Length.

Create String VI

