

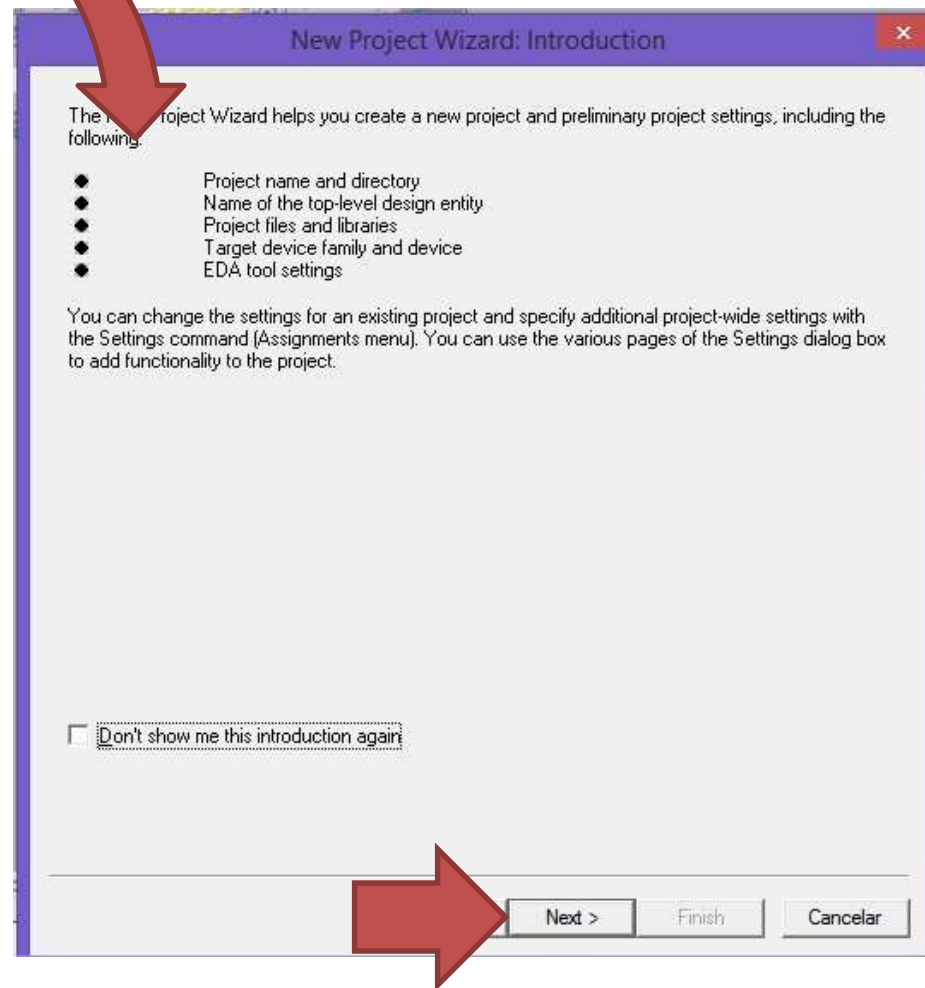
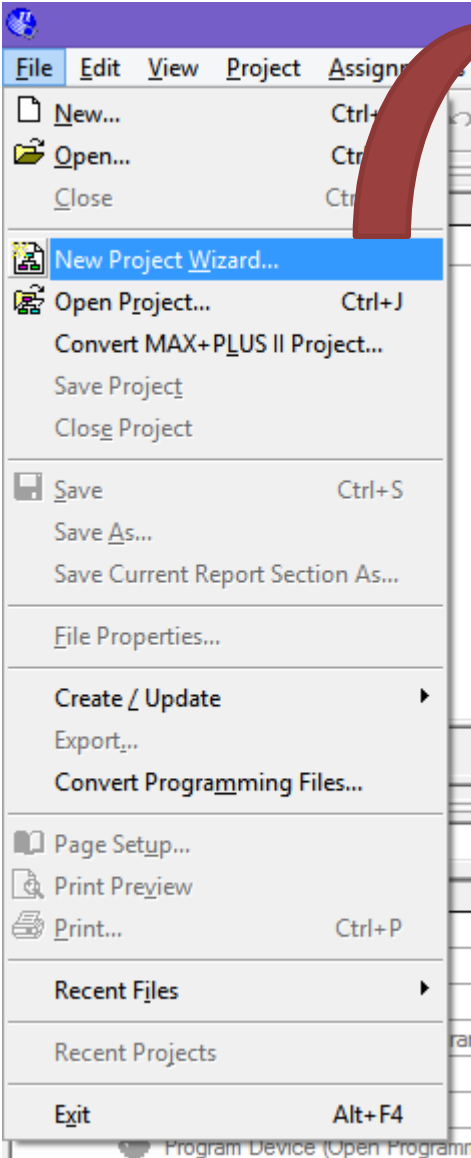
Quartus 9.1 sp2

Monitoria de Sistemas Digitais EC

Aula 1 p1

Quinta 08/05 17h às 19h





New Project Wizard: Directory, Name, Top-Level Entity [page 1 of 5]

What is the working directory for this project?

C:\Users\ALUNO\Desktop\Projeto ...

What is the name of this project?

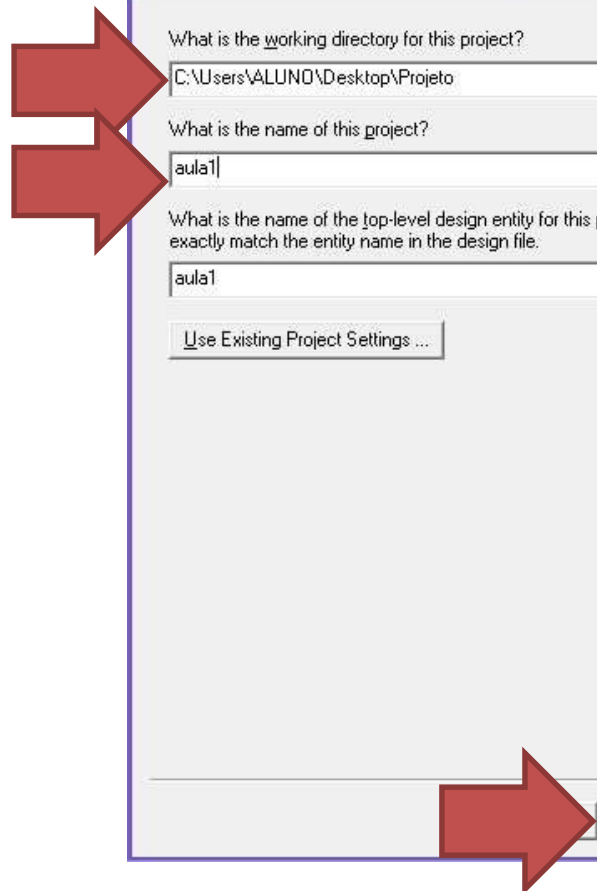
aula1 ...

What is the name of the top-level design entity for this project? This name is case sensitive and must exactly match the entity name in the design file.

aula1 ...

Use Existing Project Settings ...

Next > Finish Cancelar



Select the design files you want to include in the project. Click Add All to add all design files in the project directory to the project. Note: you can always add design files to the project later.

File name:

File name	Type	Library	Design entry/sy...	HDL version	
					Add All
					Remove

ADICIONAR NOVAS BIBLIOTECAS E
ESQUEMAS (BDF) ENTRE ALUNOS
DO GRUPO

New Project Wizard: Family & Device Settings [page 3 of 5]

Select the family and device you want to target for compilation.

Device family

- Cyclone II
- Cyclone III
- Cyclone IV E
- Cyclone IV GX
- MAX II
- MAX3000A
- MAX7000AE
- MAX7000B
- MAX7000S
- Stratix
- Stratix II

Target device

- Auto detect
- Specify

Available devices

Name	Voltage	Logic	I/O	Memory	Embed...	PLL
EP2C70F672C6	1.2V	68416	422	1152000	300	4
EP2C70F672C7	1.2V	68416	422	1152000	300	4
EP2C70F672C8	1.2V	68416	422	1152000	300	4
EP2C70F672I8	1.2V	68416	422	1152000	300	4
EP2C70F896C6	1.2V	68416	622	1152000	300	4
EP2C70F896C7	1.2V	68416	622	1152000	300	4
EP2C70F896C8	1.2V	68416	622	1152000	300	4
EP2C70F896I8	1.2V	68416	622	1152000	300	4

Show in 'Available device' list

Package: Any

Pin count: Any

Speed grade: Any

☒ Show advanced devices☐ HardCopy compatible only

Companion device

HardCopy: ☒ Limit DSP & RAM to HardCopy device resources

Next >

Finish

Cancel

New Project Wizard: EDA Tool Settings [page 4 of 5]



Specify the other EDA tools -- in addition to the Quartus II software -- used with the project.

Design Entry/Synthesis

Tool name:

Format:

☐ Run this tool automatically to synthesize the current design

Simulation

Tool name:

Format:

☐ Run gate-level simulation automatically after compilation

Timing Analysis

Tool name:

Format:

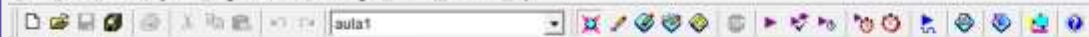
☐ Run this tool automatically after compilation



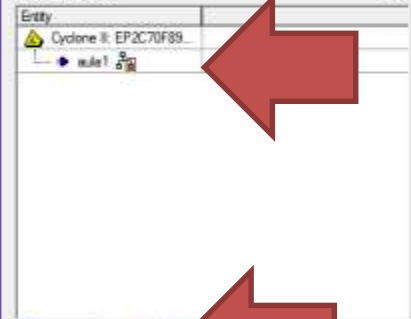
Next >

Finish

Cancel



Project Navigator



Hierarchy Files

Tasks

Row: Compilation

Task	Time
Compile Design	
Analysis & Synthesis	
Fitter (Place & Route)	
Assembler (Generate programming files)	
Classic Timing Analysis	
EDA Netlist Writer	
Program Device (Open Programmer)	



ALTERA
QUARTUS II
Version 6.1

[View Quartus II Information](#)[Documentation](#)

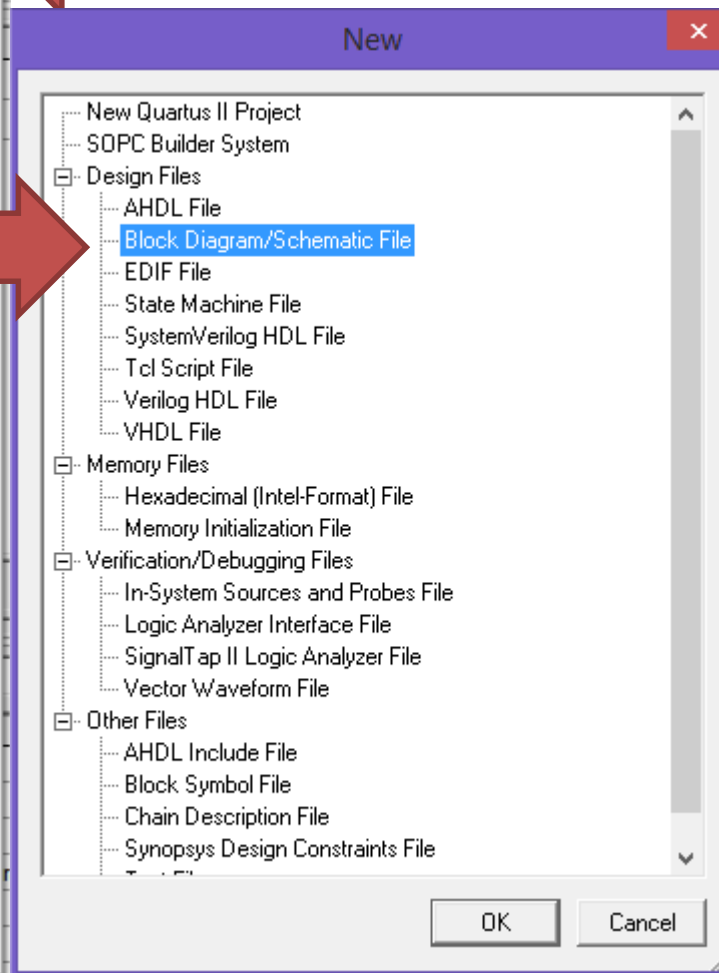
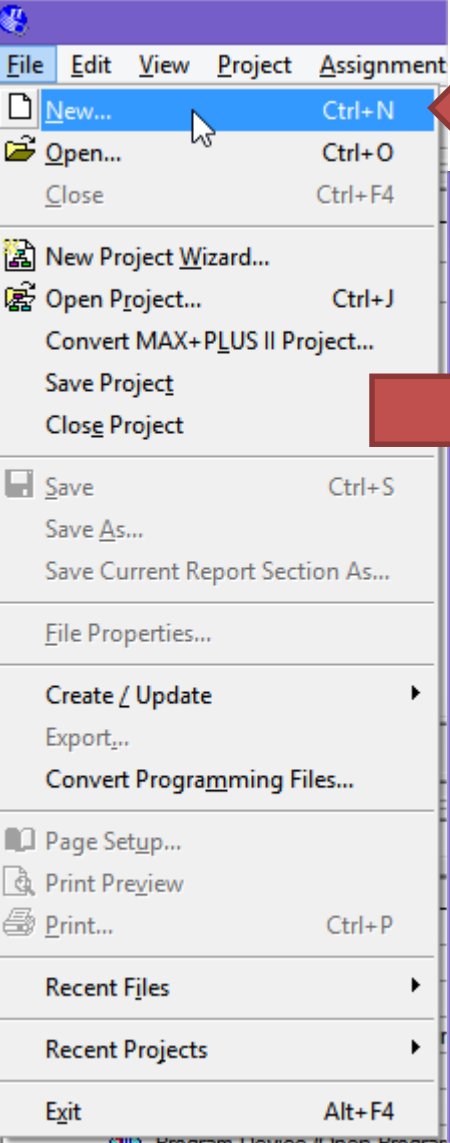
Type Message

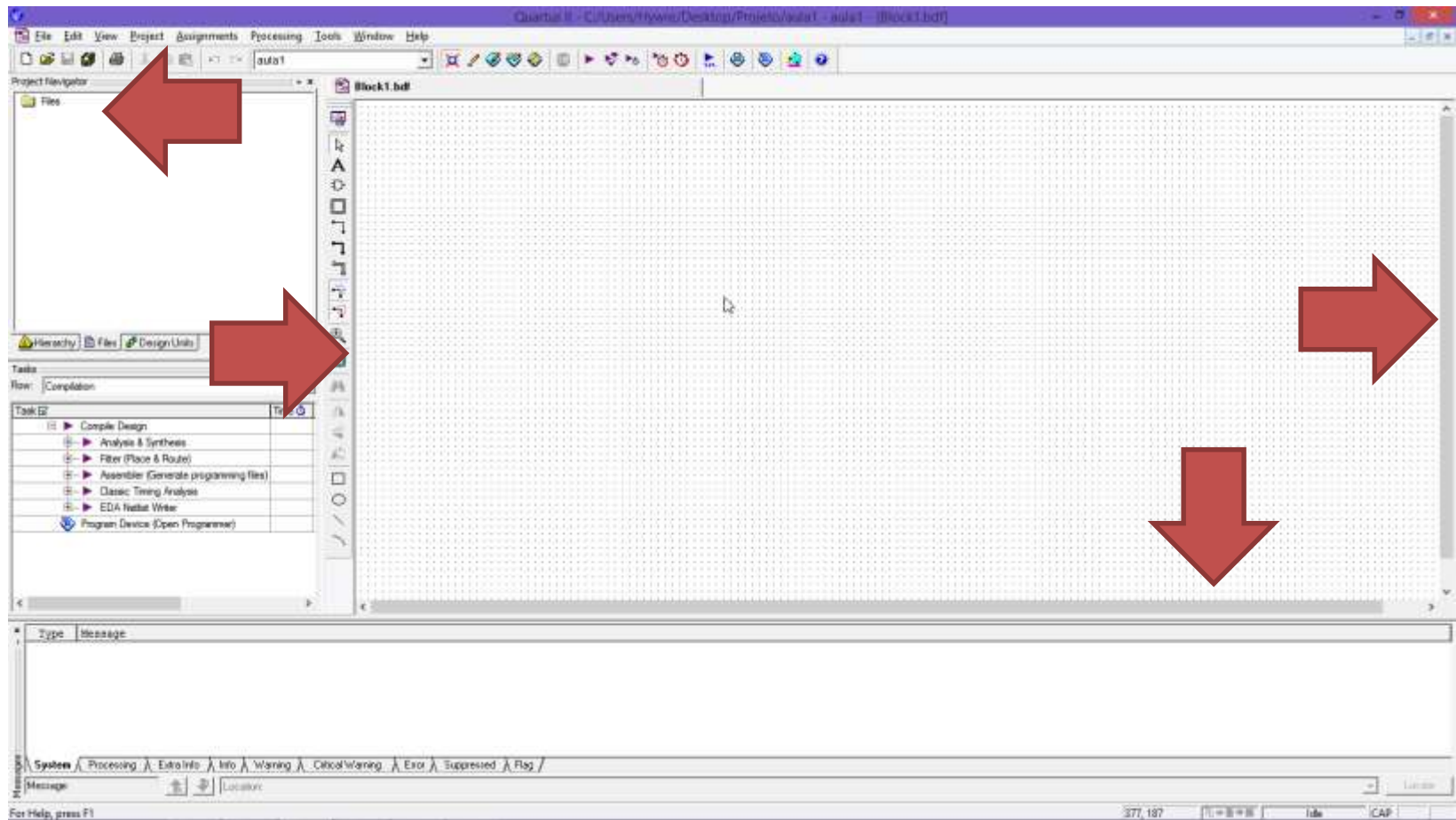
System Processing Extra Info Info Warning Critical Warning Error Suppressed Flag

Message Location

For Help, press F1

Idle CAP







Symbol

Libraries:

- c:/altera/91sp2/quartus/libra
 - megafuncions
 - others
 - primitives
 - buffer
 - logic
 - and12
 - and2
 - and3
 - and4
 - and6
 - and8
 - band12
 - band2

Name:

and2

☒ Repeat-insert mode

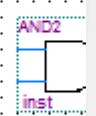
☐ Insert symbol as block

☐ Launch MegaWizard Plug-In

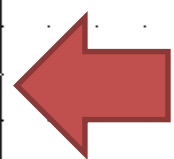
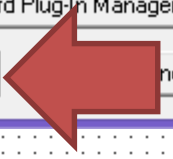
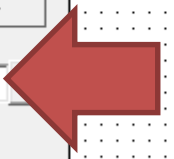
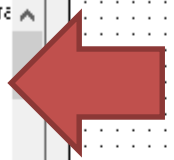
MegaWizard Plug-In Manager...

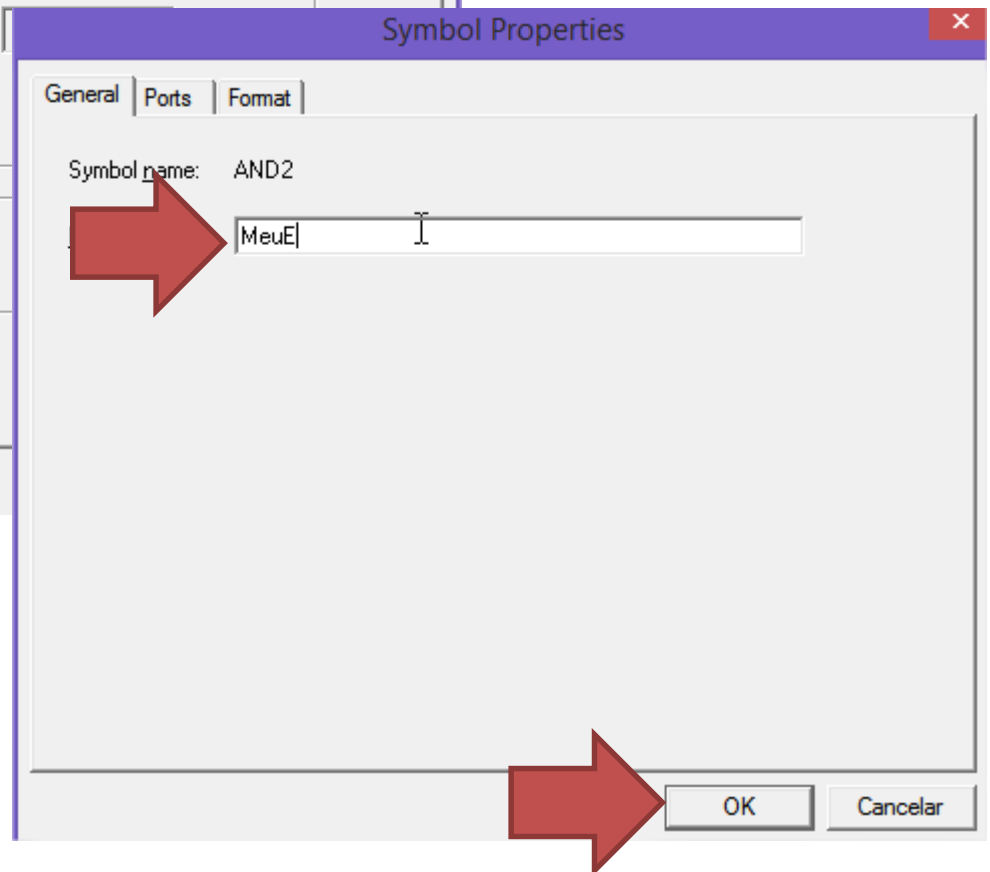
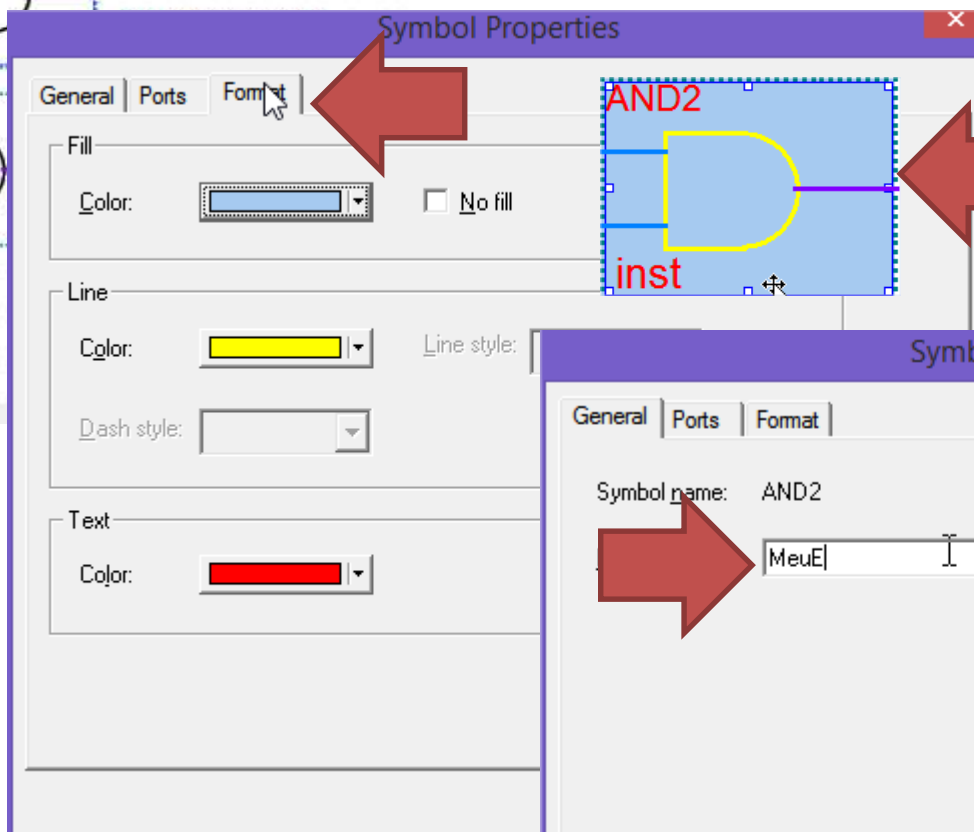
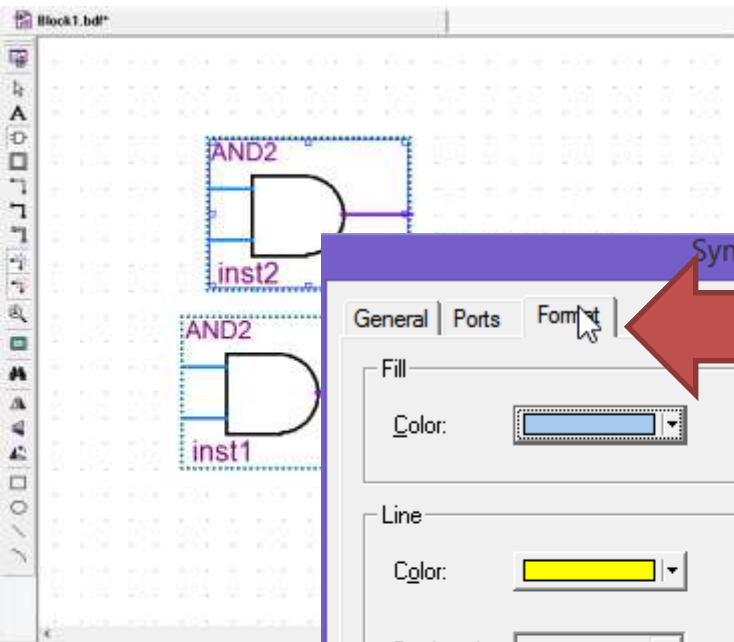
OK

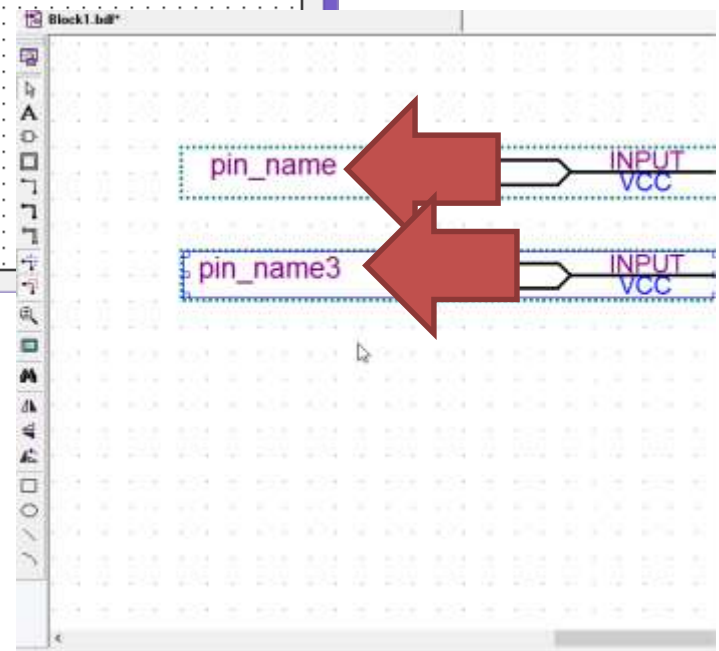
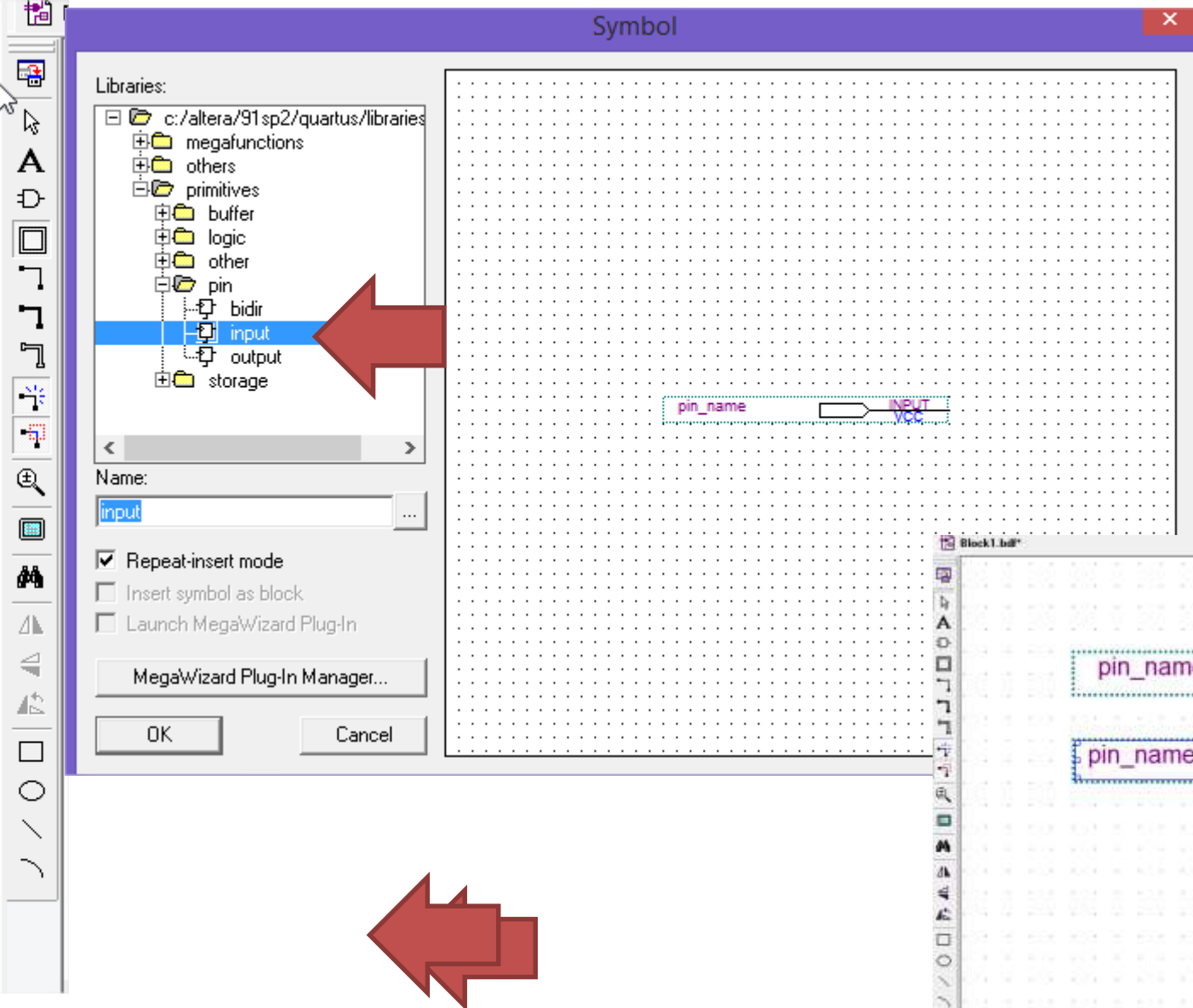
Cancel

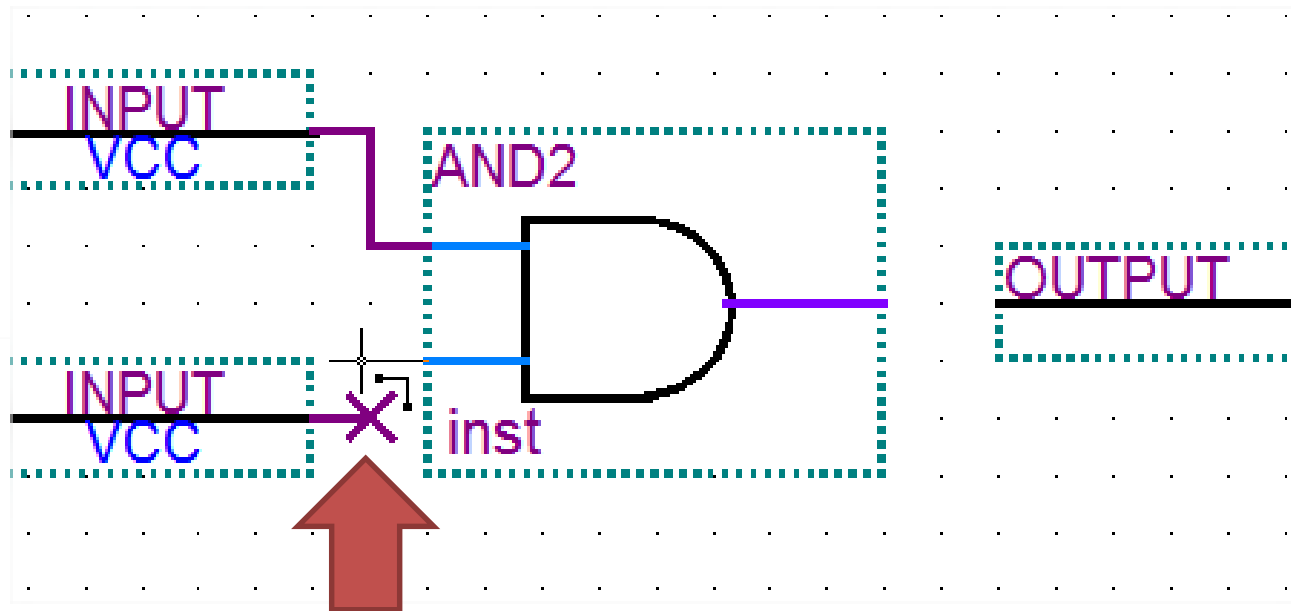
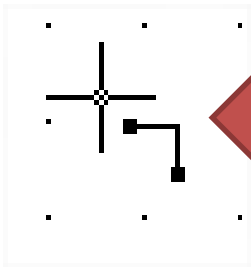


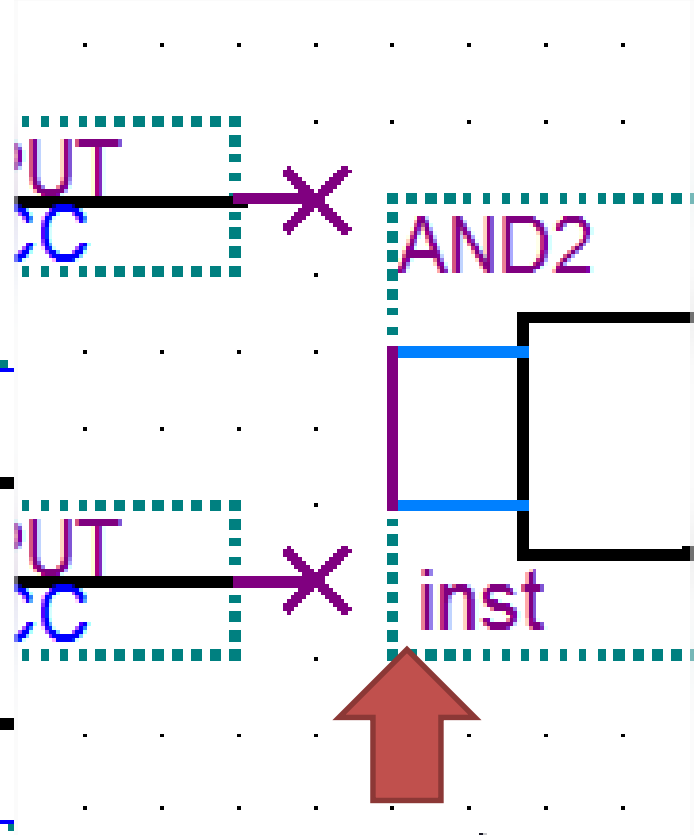
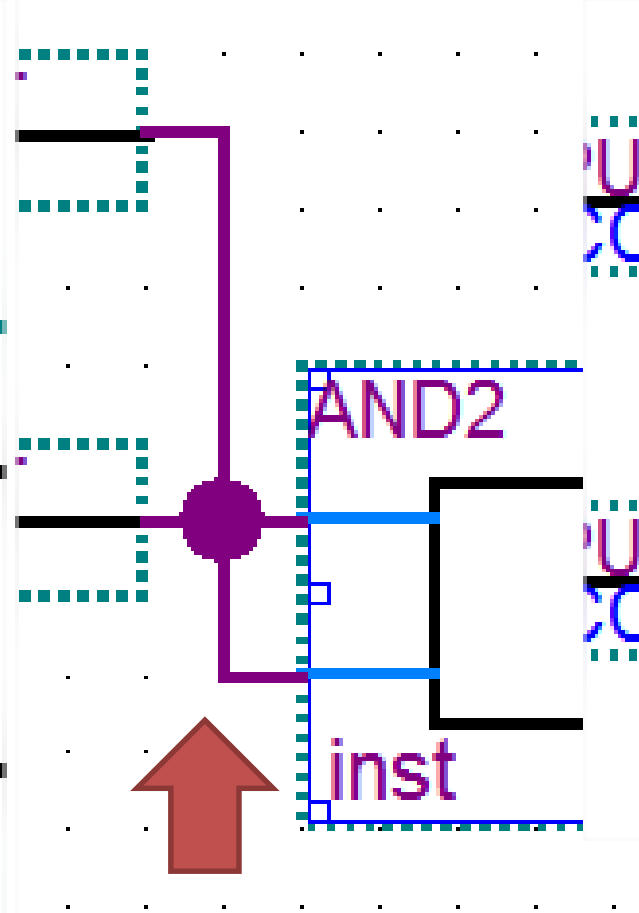
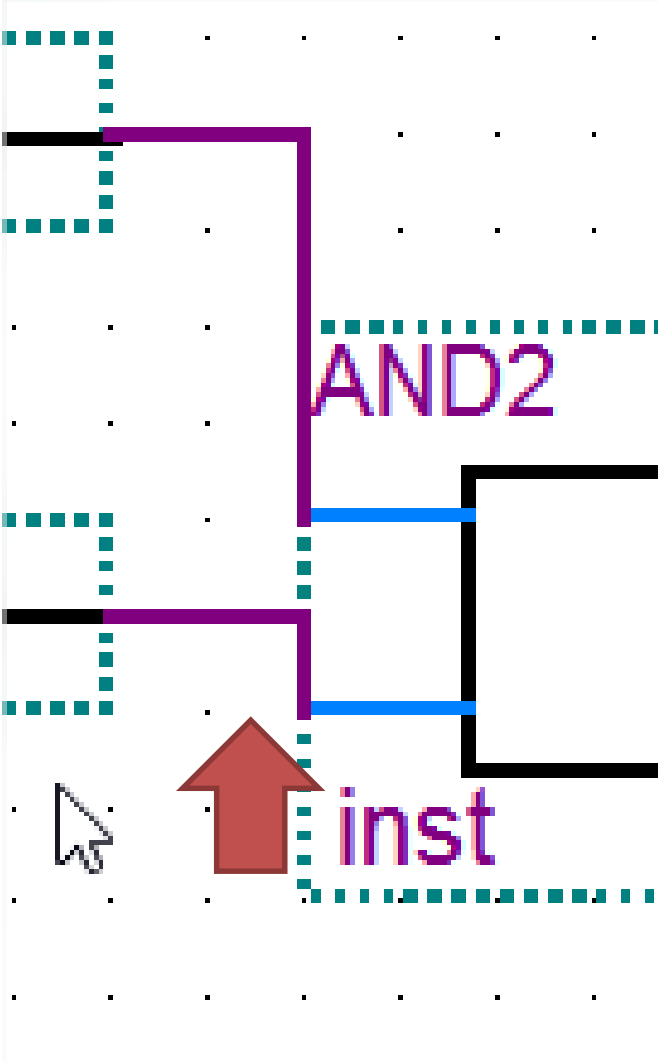
Block1.bdf











Block1.bdf

File Edit View Project Assign

New... Ctrl+N

Open... Ctrl+O

Close Ctrl+F4

New Project Wizard...

Open Project... Ctrl+O

Convert MAX+PLUS II Project...

Save Project

Close Project

Save Ctrl+S

Save As...

Save Current Report Section As...

File Properties...

Create / Update

Export...

Convert Programming Files...

Page Setup...

Print Preview

Print... Ctrl+P

Recent Files

Recent Projects

Exit Alt+F4

Save As

Salvar em: Projeto

Nome Data de modificação Tipo Tamanho

db	07/11/2013 16:52	Pasta de arquivos	
diagramas	07/11/2013 17:35	Pasta de arquivos	

Locais recentes

Área de Trabalho

Save As

Salvar em: diagramas

Nome Data de modificação Tipo Tamanho

E.bdf	07/11/2013 17:36	Quartus II Block/S...	
-------	------------------	-----------------------	--

Locais recentes

Área de Trabalho

Bibliotecas

Meu computador

Rede

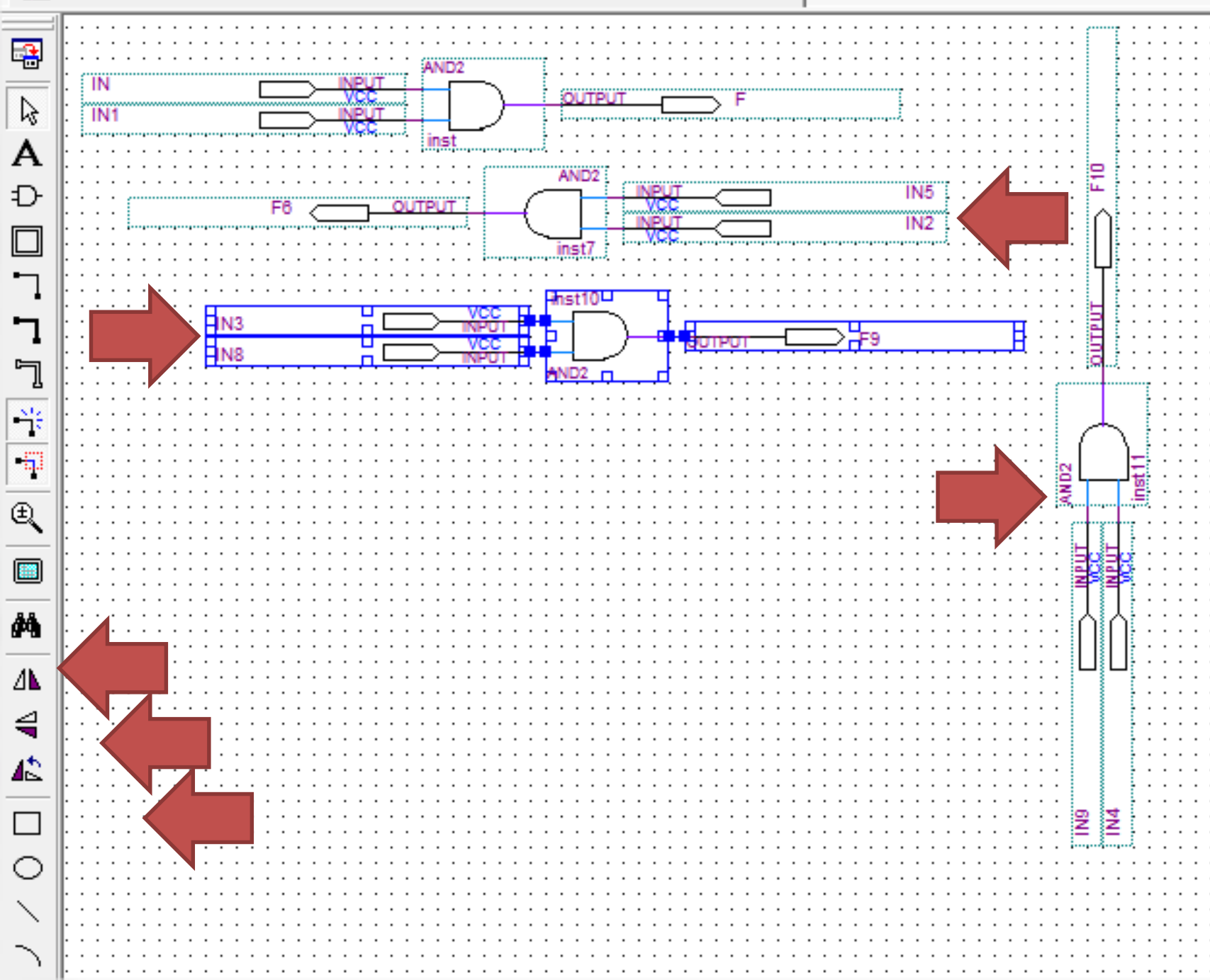
Nome: E

Tipo: E.bdf

☒ Add file to current project

Salvar

Cancelar



Perguntas?

Exercício 1

1. Construir os seguintes arquivos de blocos de diagramas e salvar no seu projeto:

Quartus 9.1 sp2

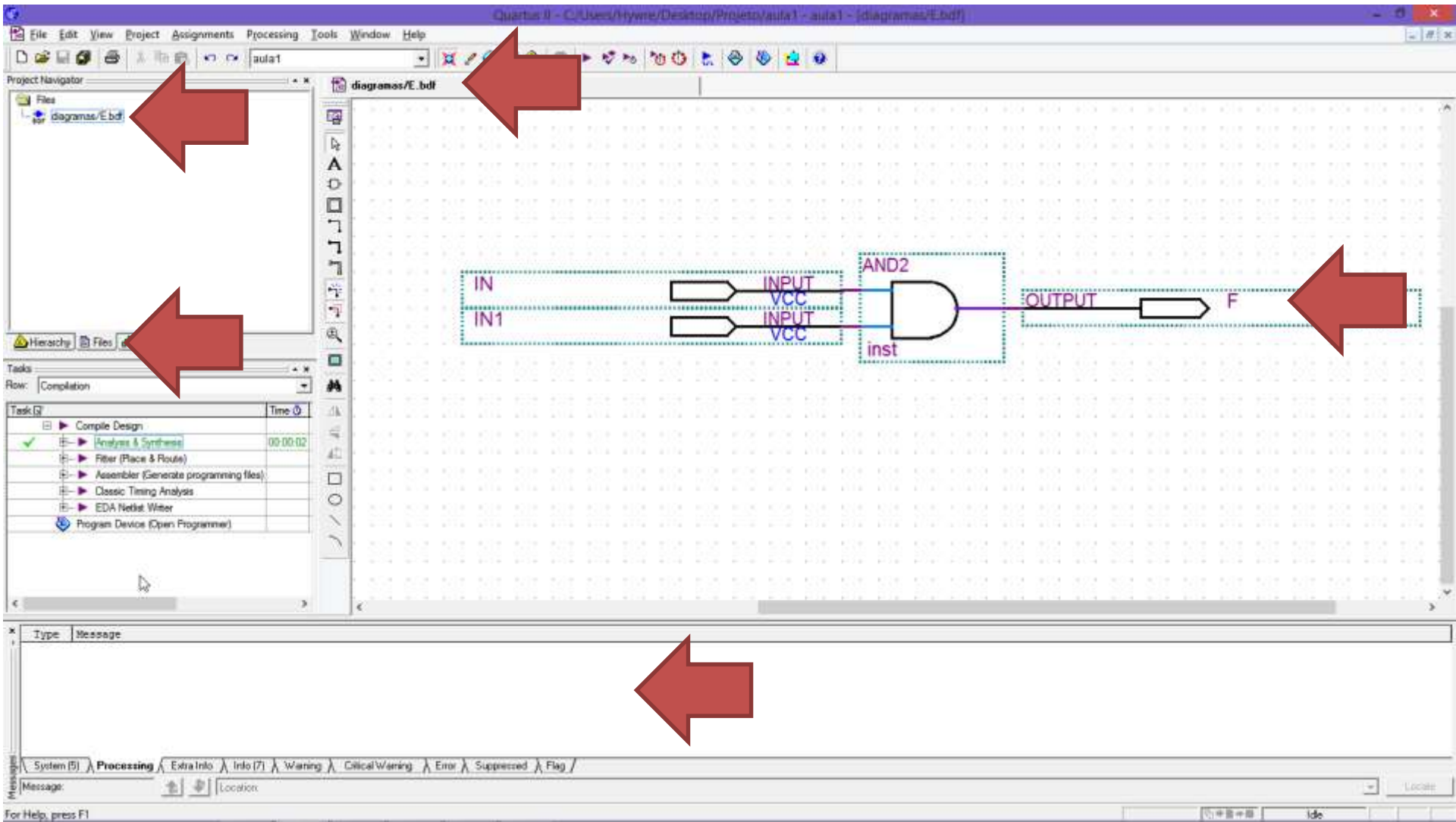
Web Edition

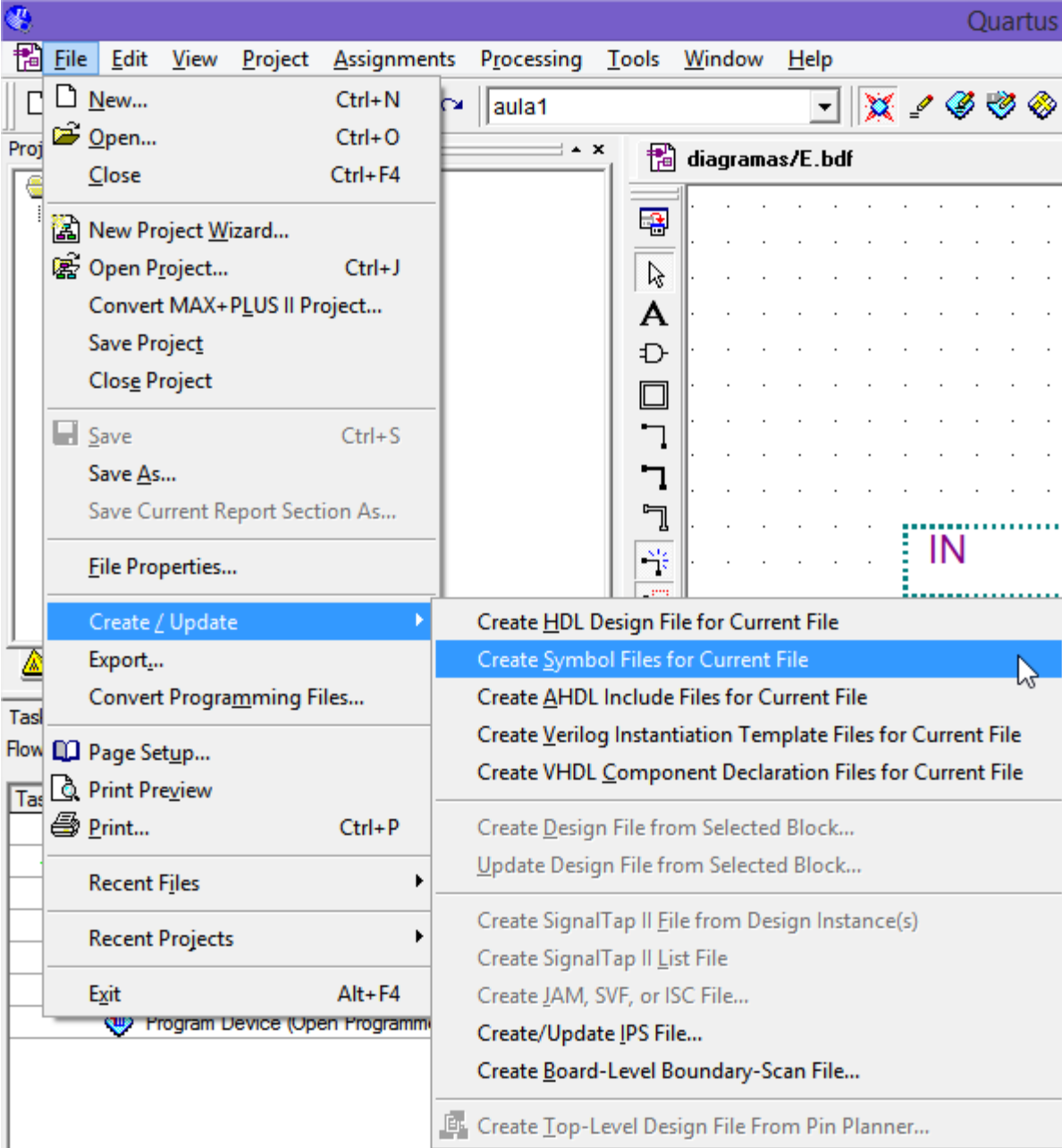
Monitoria de Sistemas Digitais EC

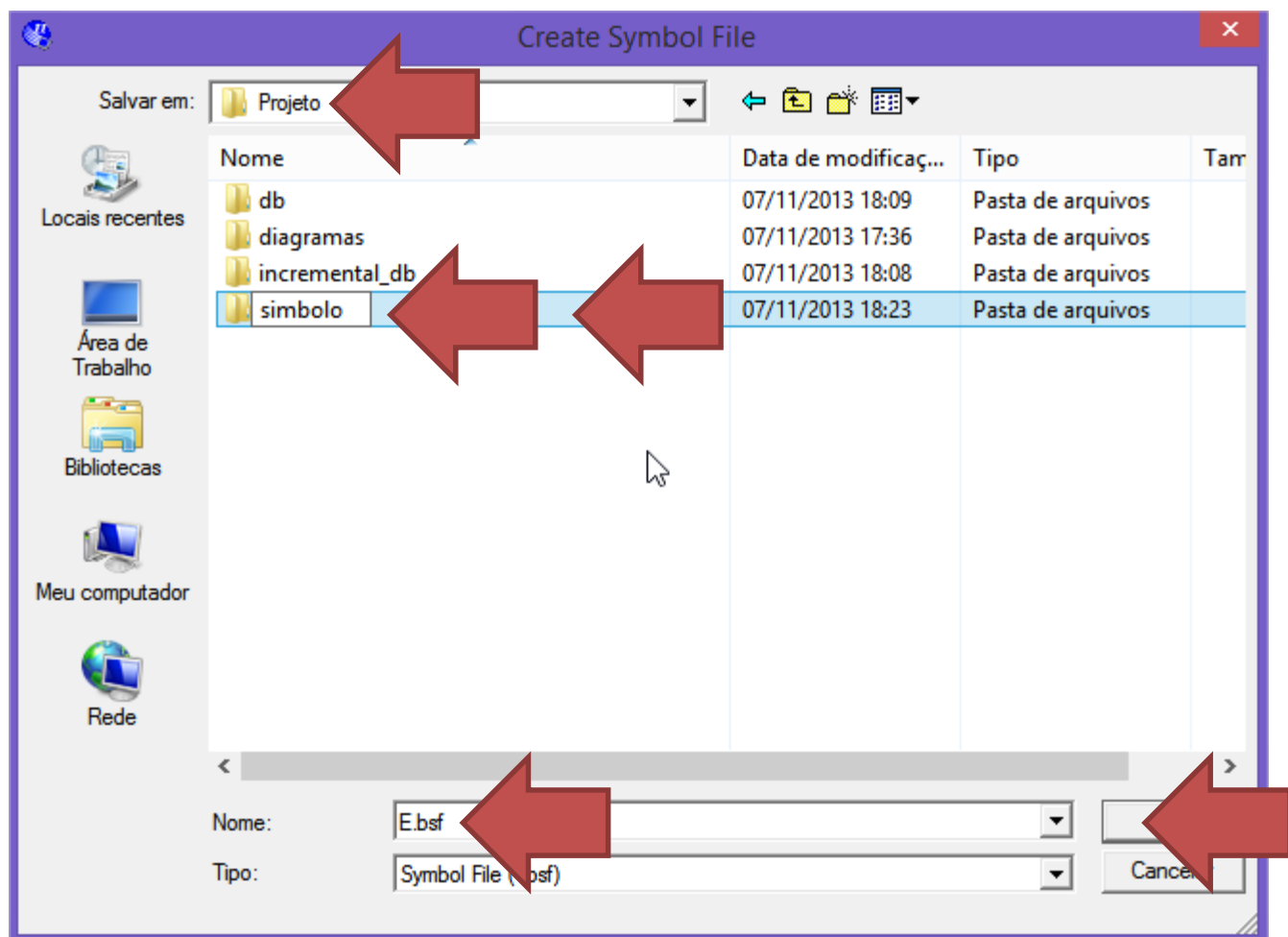
Aula 1 parte 2

Sexta 08/11 10h às 11h

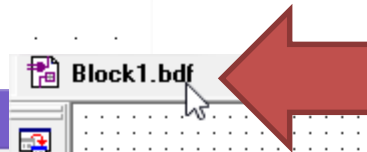
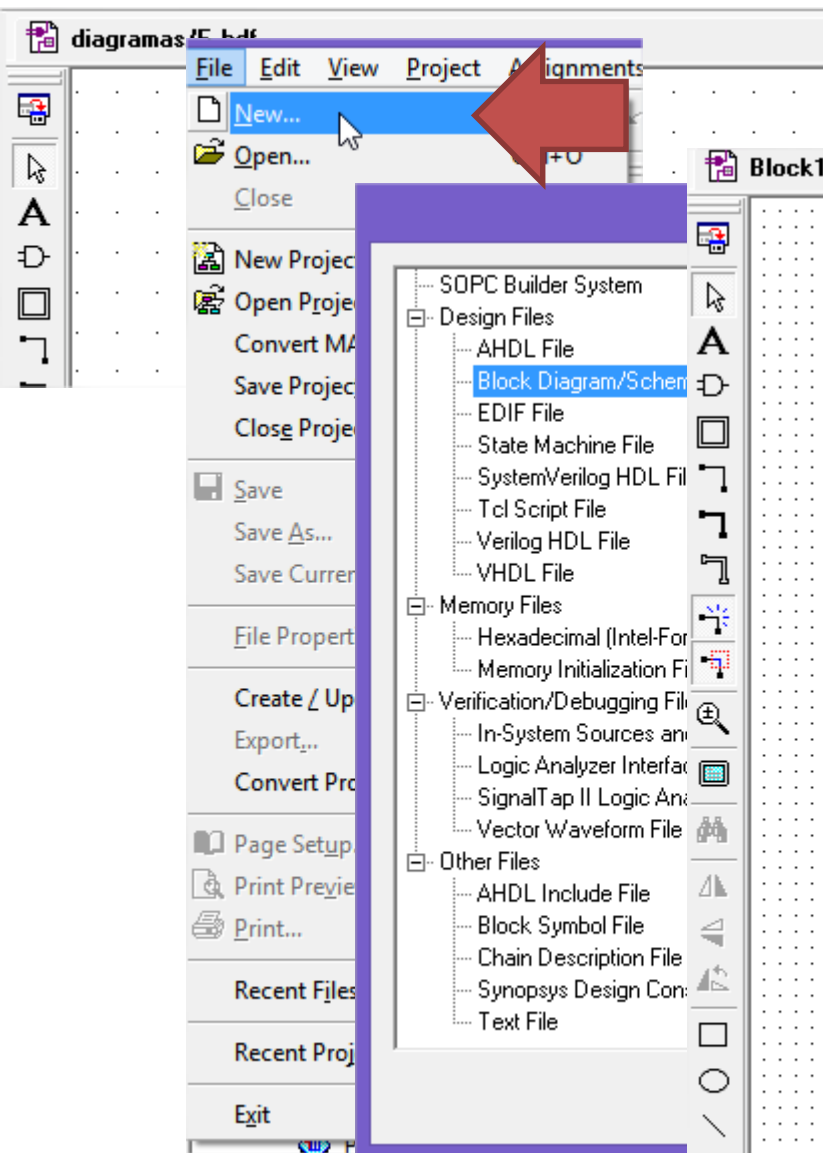
Mantenha 01 BDF aberto

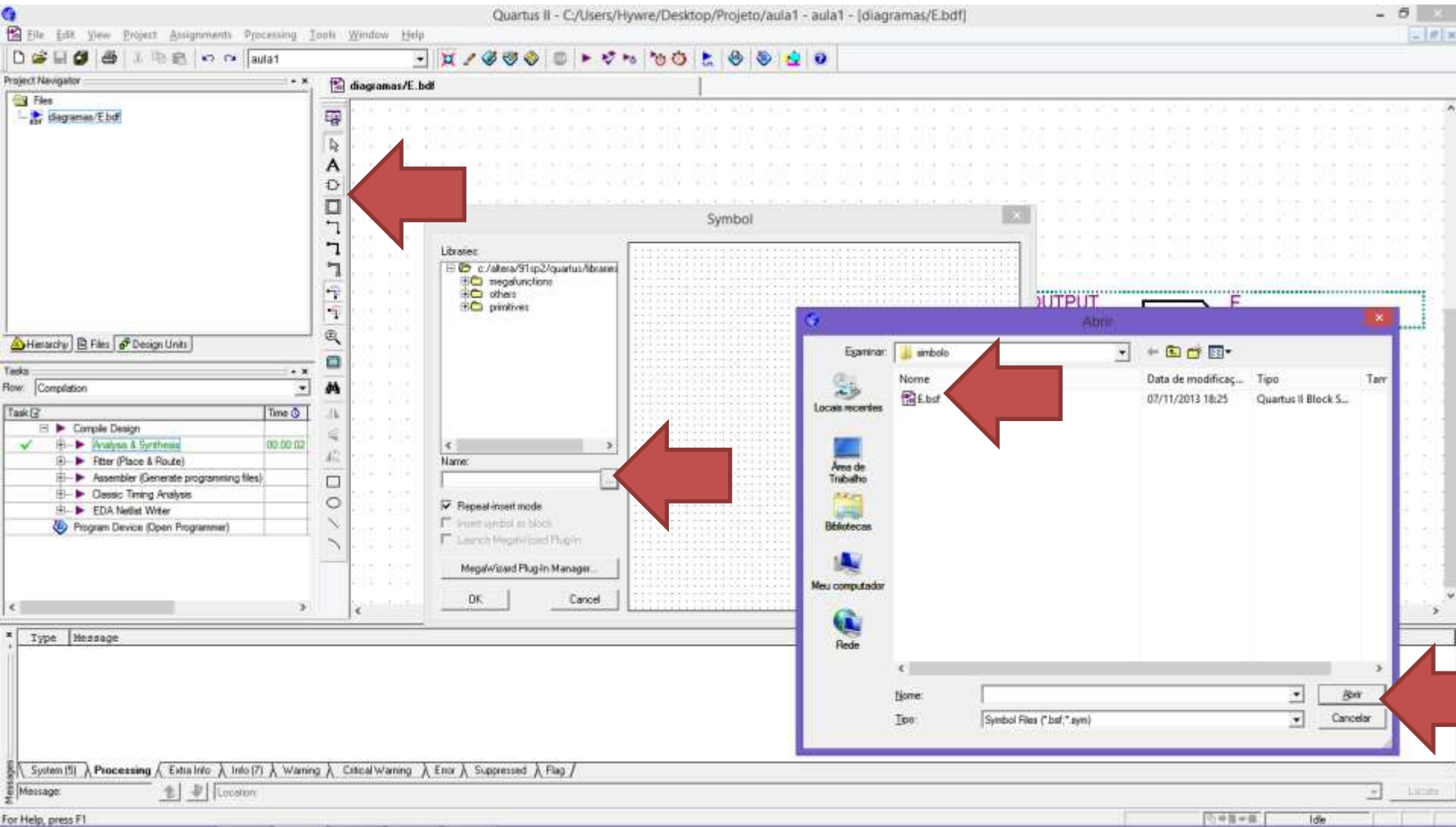






Agora, abra um bdf em branco



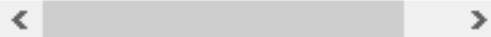


Symbol



Libraries:

- c:/altera/91sp2/quartus/libraries
 - megafunctions
 - others
 - primitives



Name:

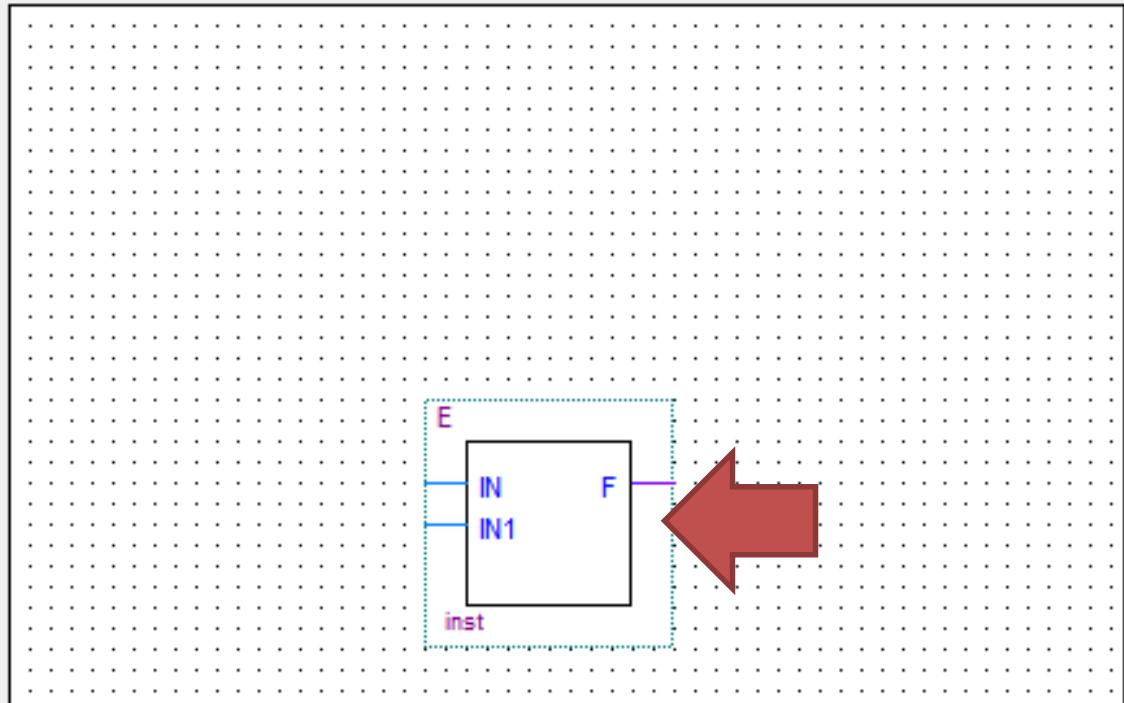
E

- ☒ Repeat-insert mode
- ☐ Insert symbol as block
- ☐ Launch MegaWizard Plug-In

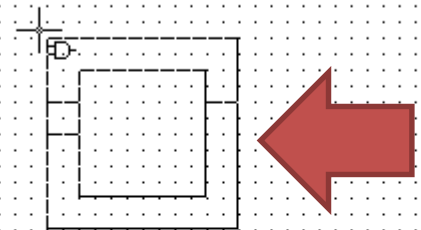
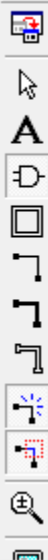
MegaWizard Plug-In Manager...

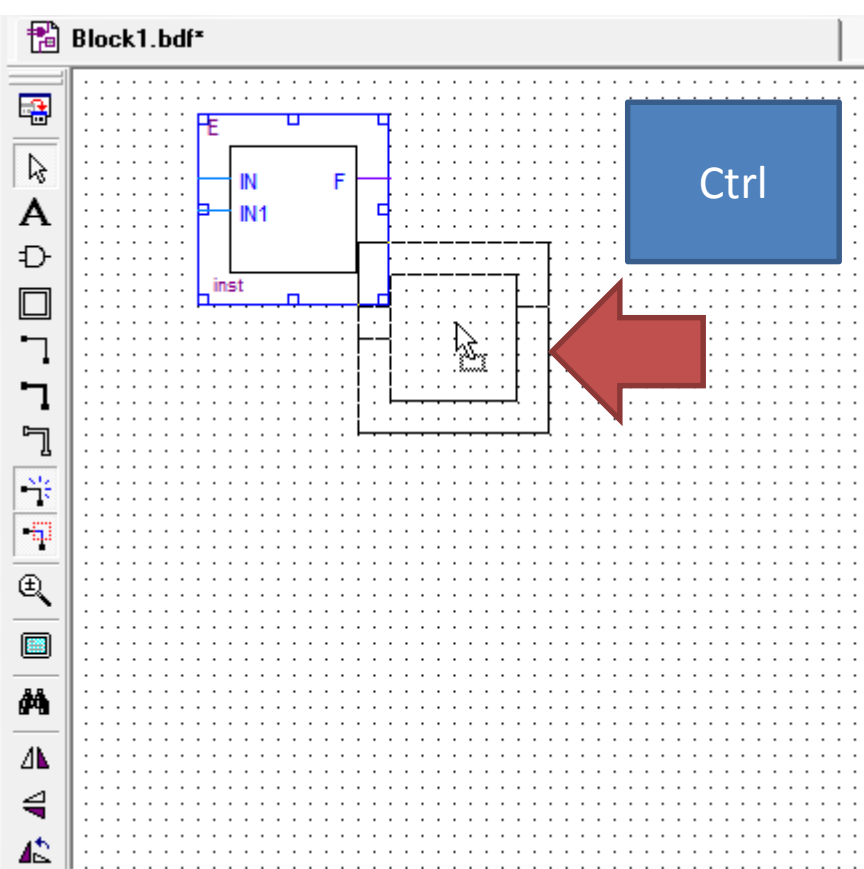
OK

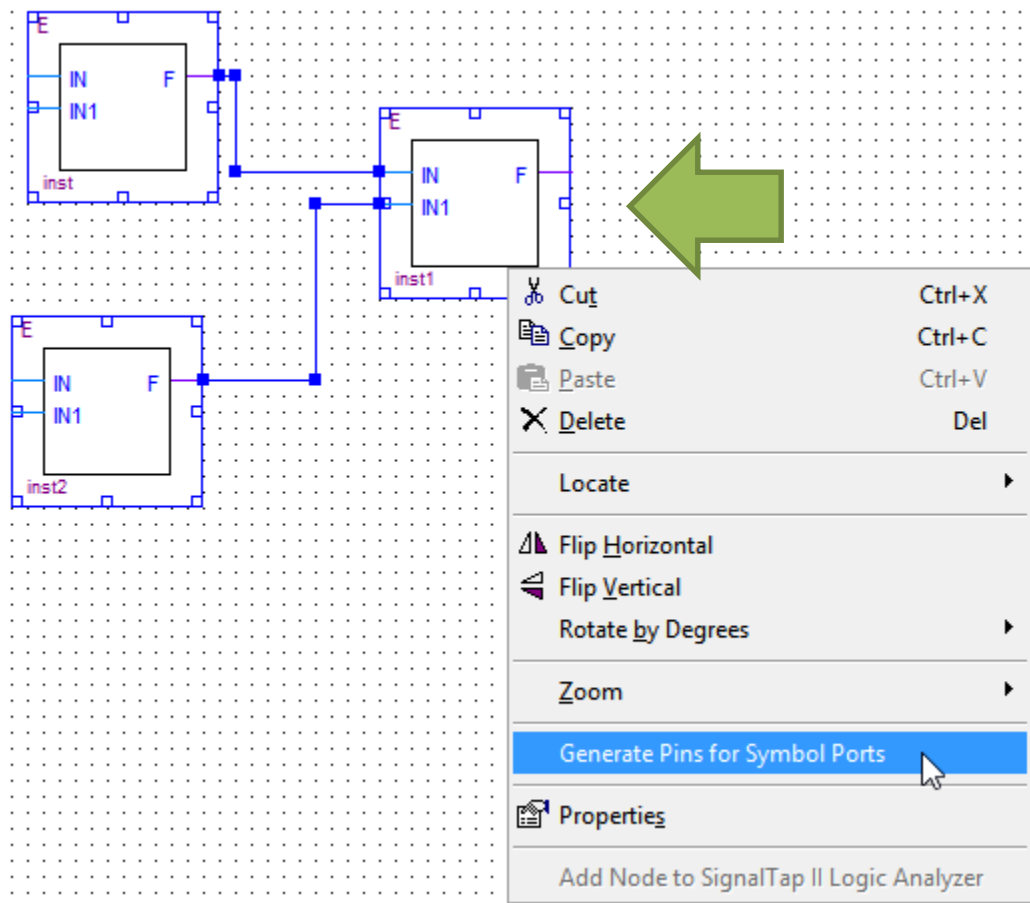
Cancel

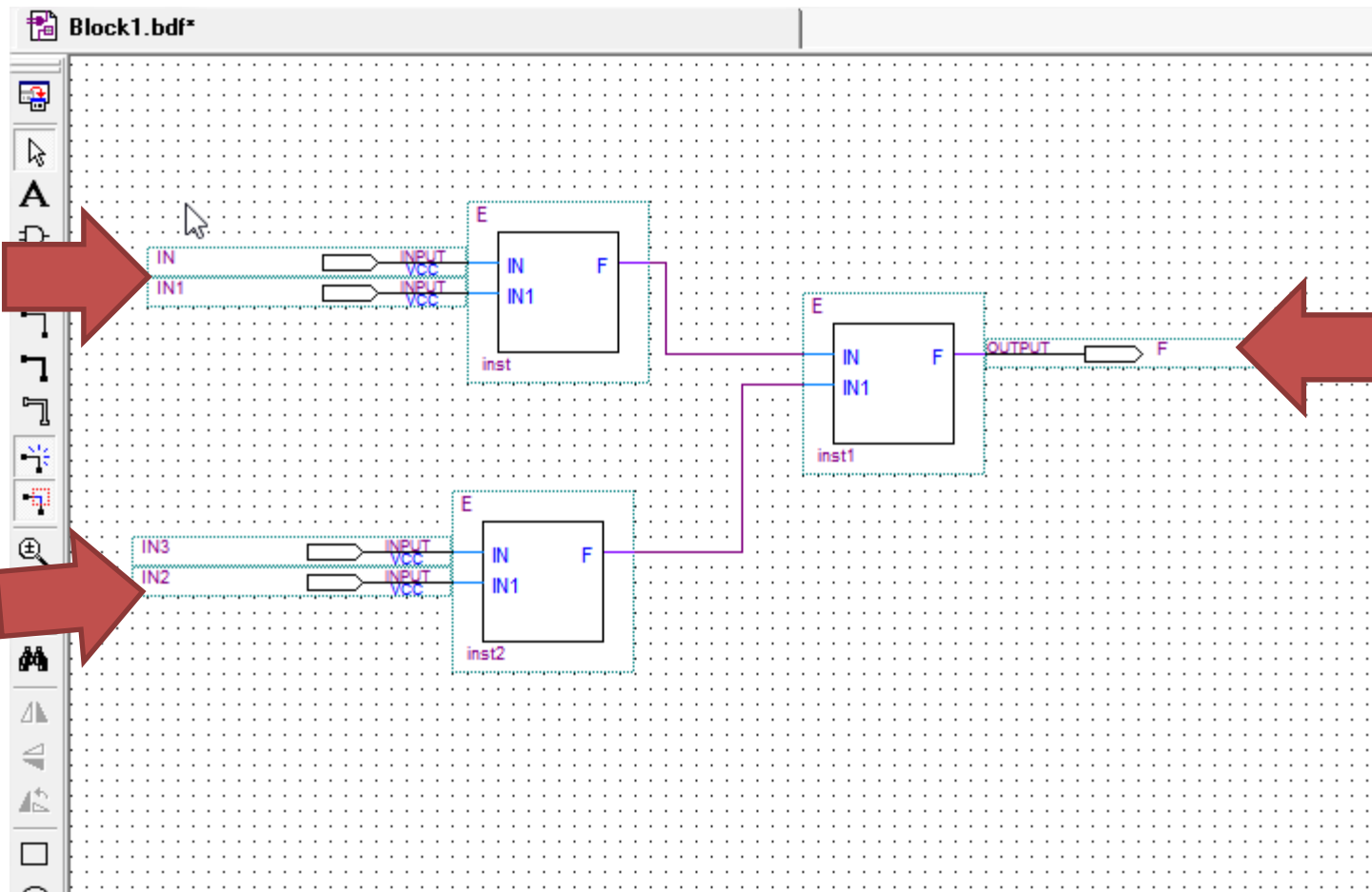


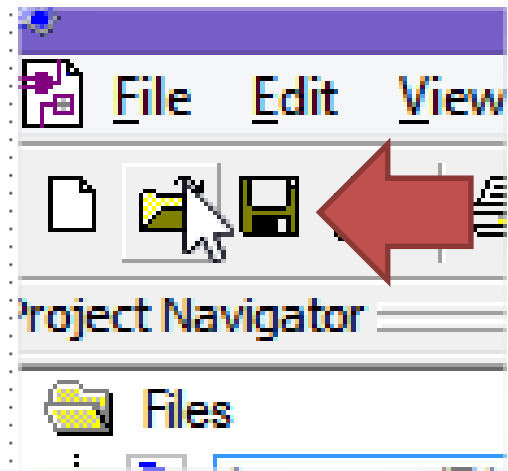
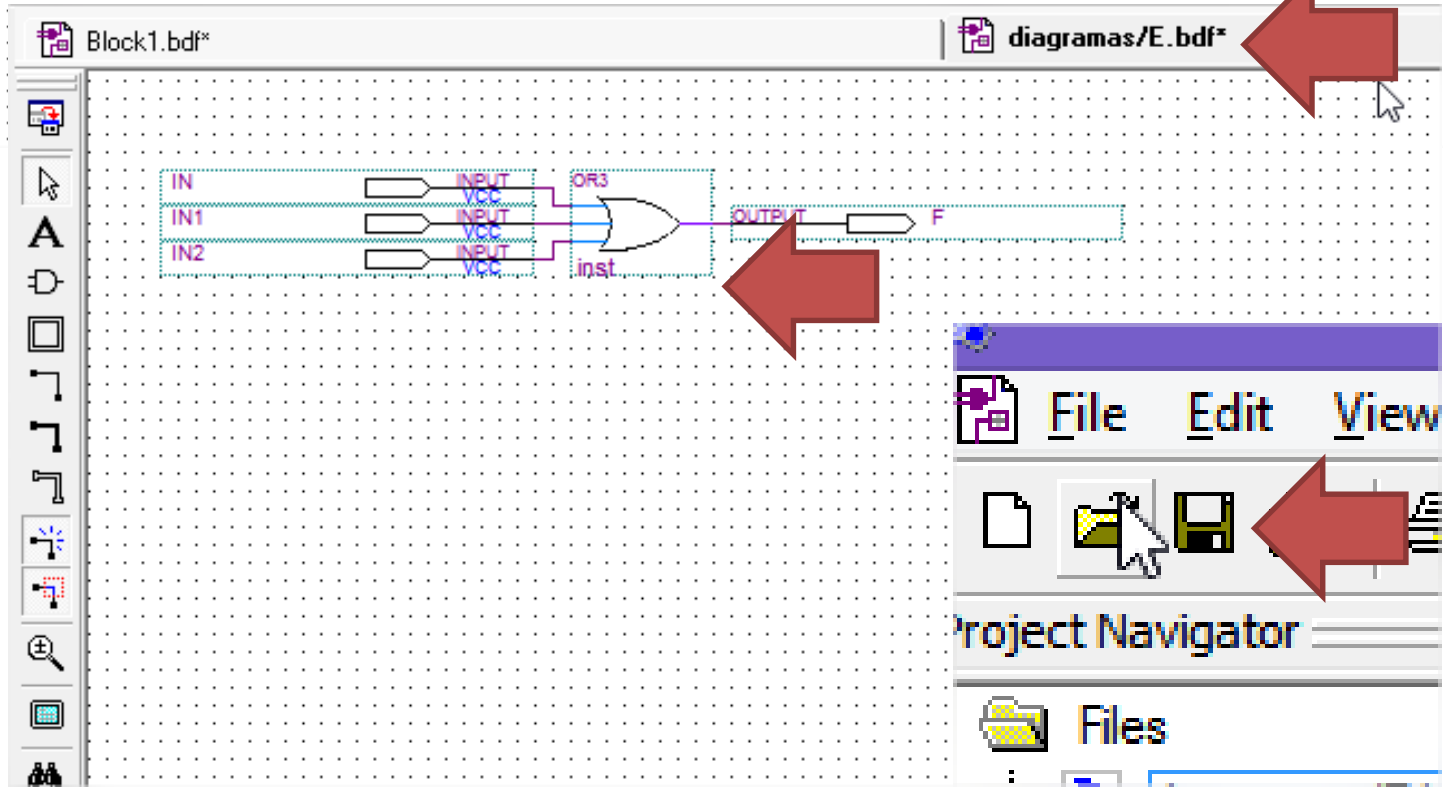
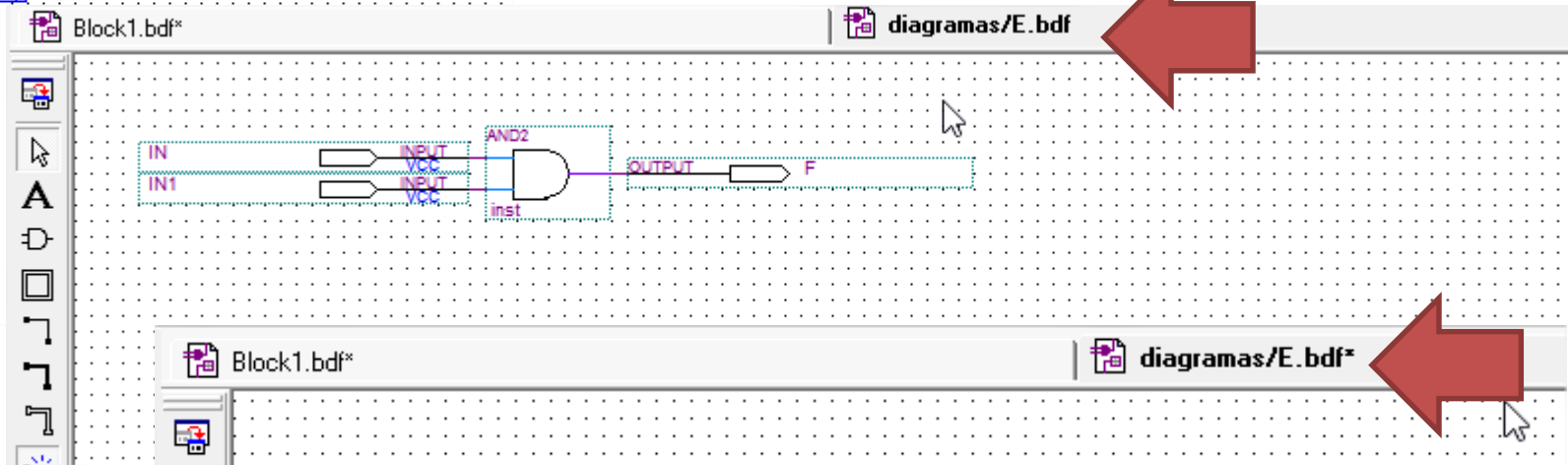
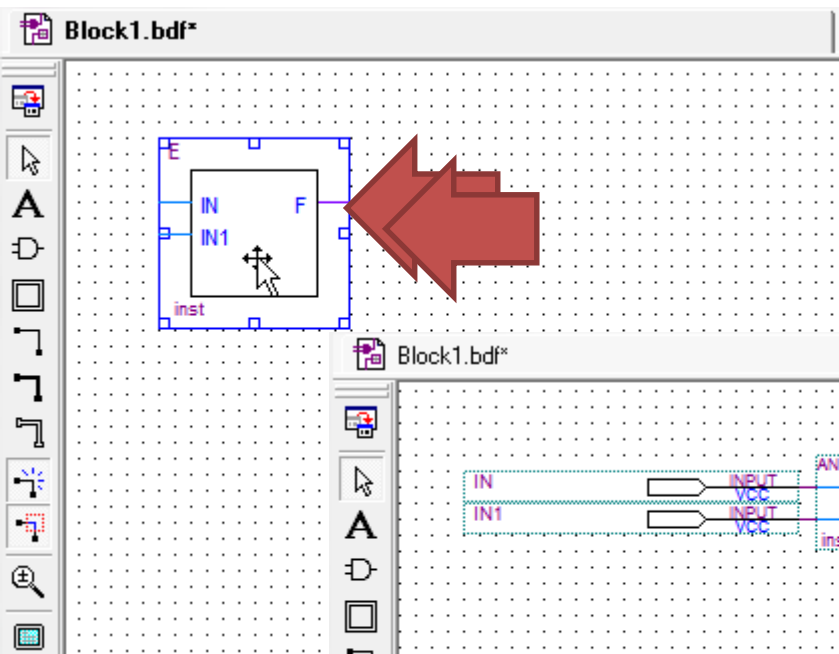
Block1.bdf

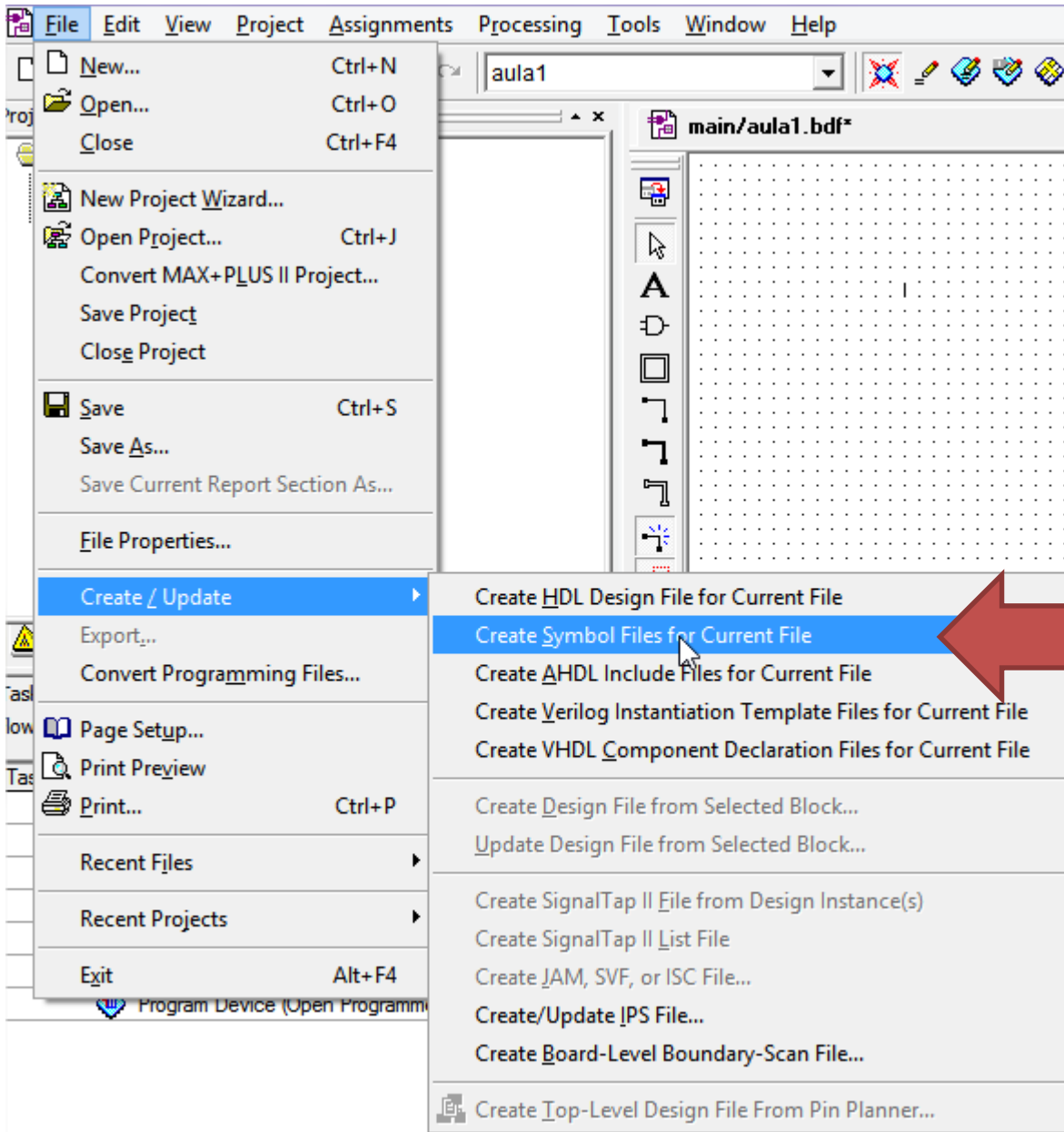


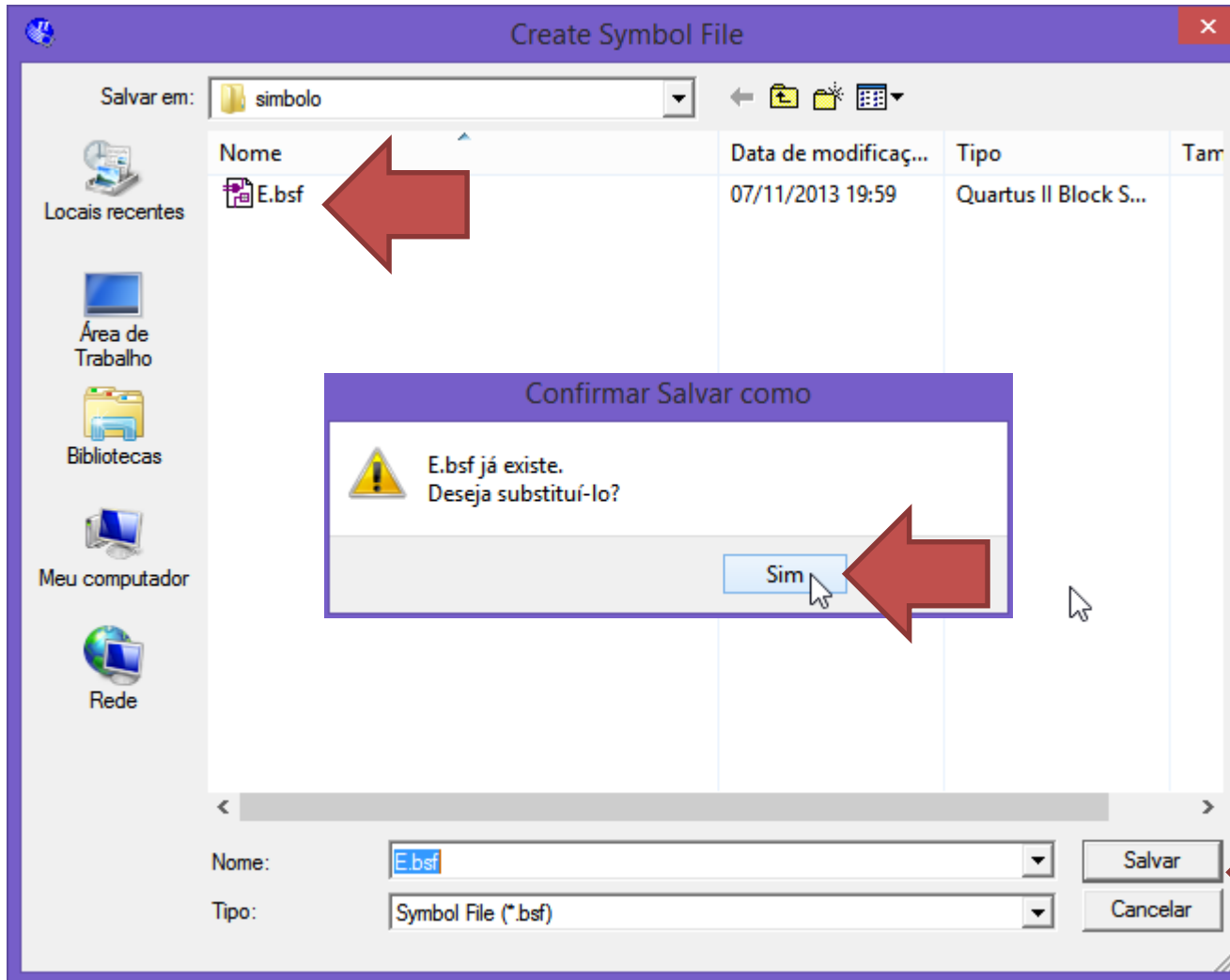


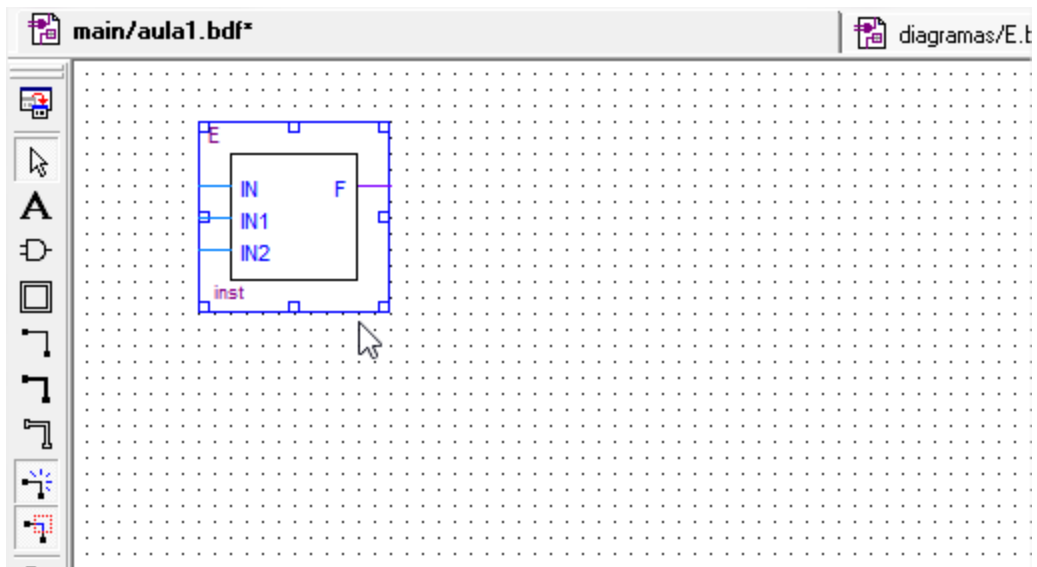




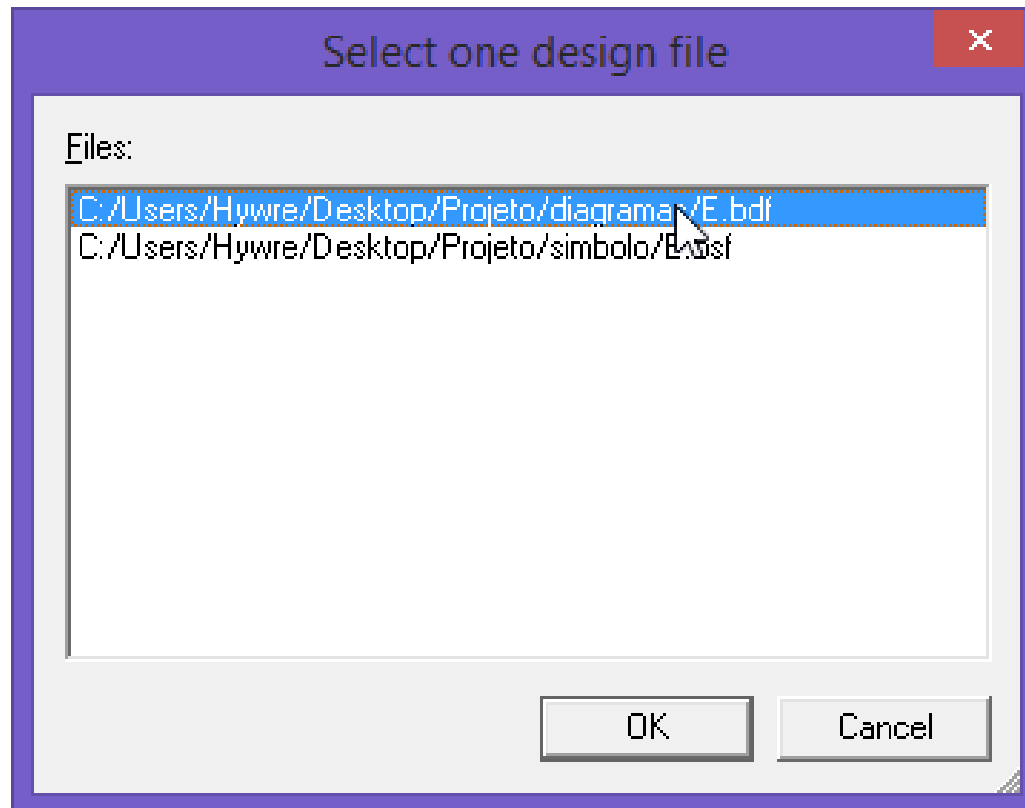


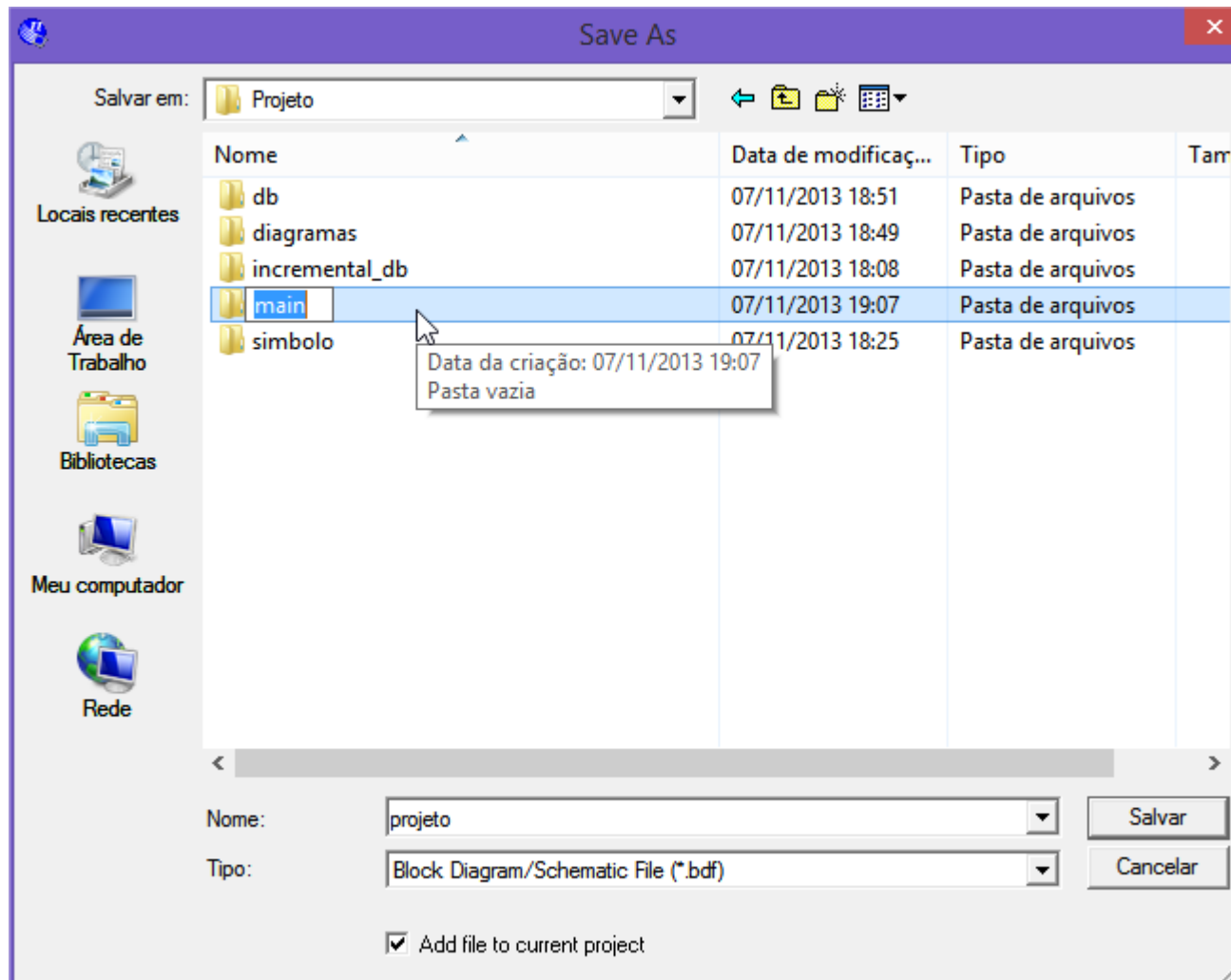






Problemas





Perguntas?

Exercício 2

2. Construir os seguintes arquivos de blocos de diagramas utilizando símbolo quando entre parênteses:

$$D) F = (((C.D)' + A)' + (A + (C.D) + A.B) + (A.D)')$$

Tempo : 5 min

Sugestão:

1. Quebre em “funções”, cada letra uma “caixinha”.

a. $(C.D)'$

b. $(X + A)'$, sendo $X = (C.D)'$

c. $(A + (C.D) + AB)$

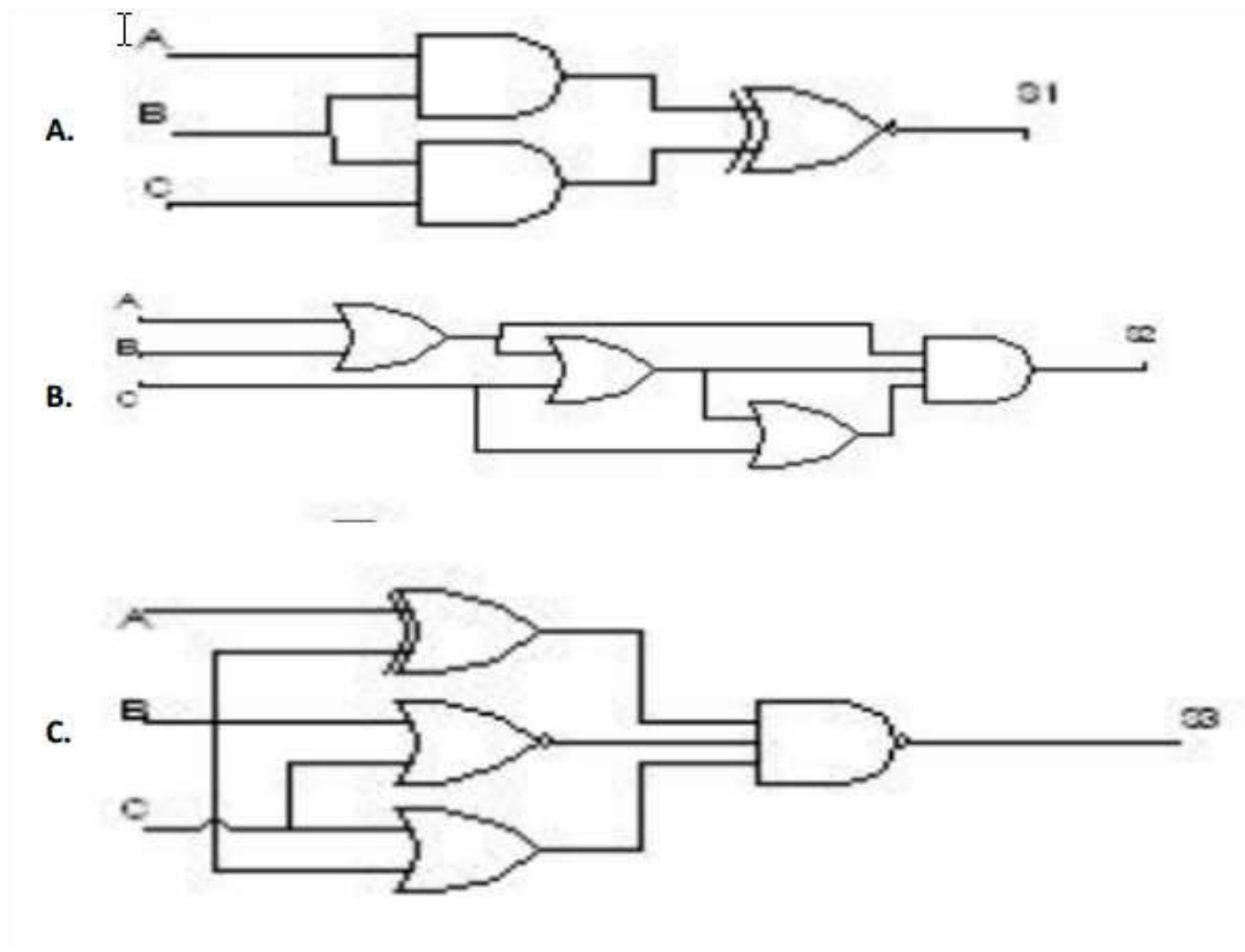
d. $(A.D)'$

e. $X + Y + Z$, sendo $X = 'b'$, $Y = c$, $Z = d$

Obs: CD e $(CD)'$ são a mesma caixa, negada no fim.

Pode-se reaproveitar.

2. Construir os seguintes arquivos de blocos de diagramas utilizando símbolo quando entre parênteses:



Tempo : 15 min

Quartus 9.1 sp2

Web Edition

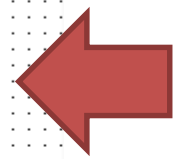
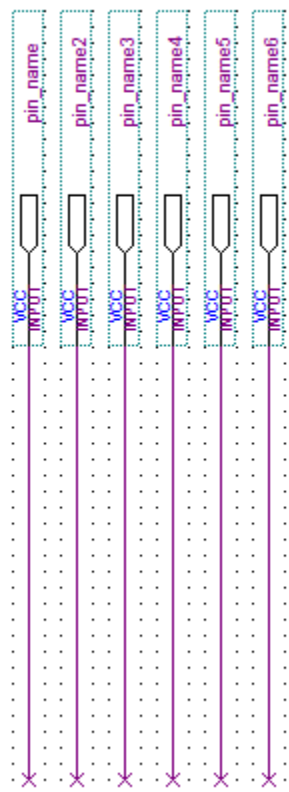
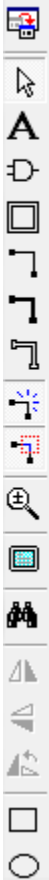
Monitoria de Sistemas Digitais EC

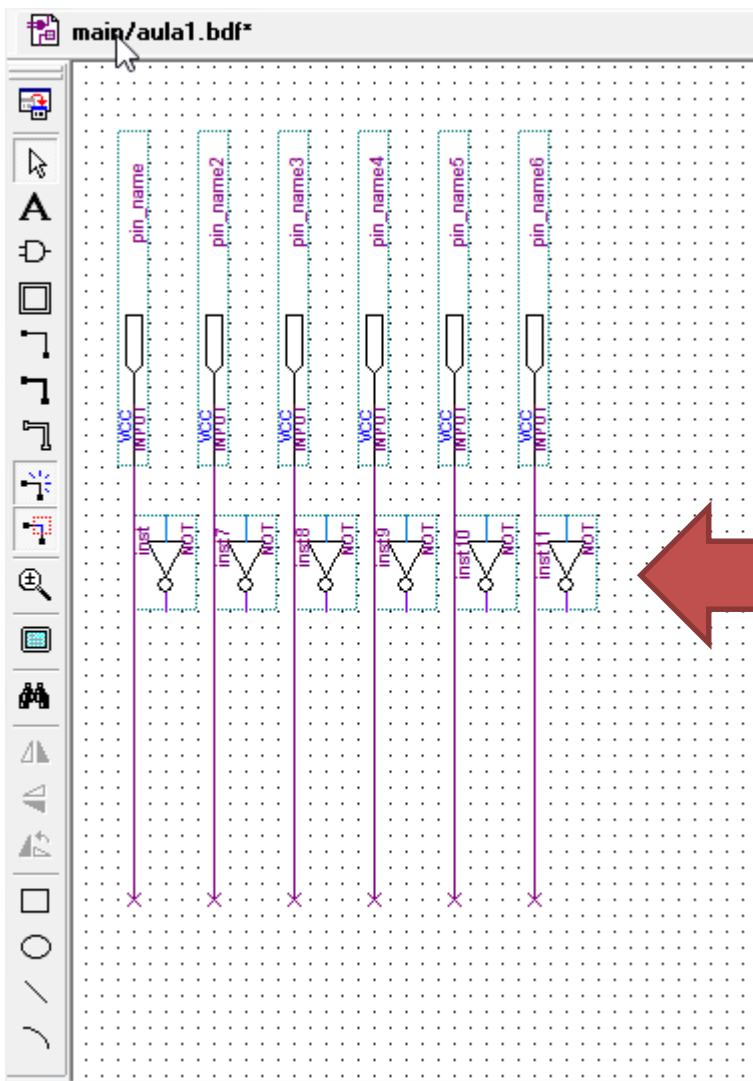
Aula 1 parte 3

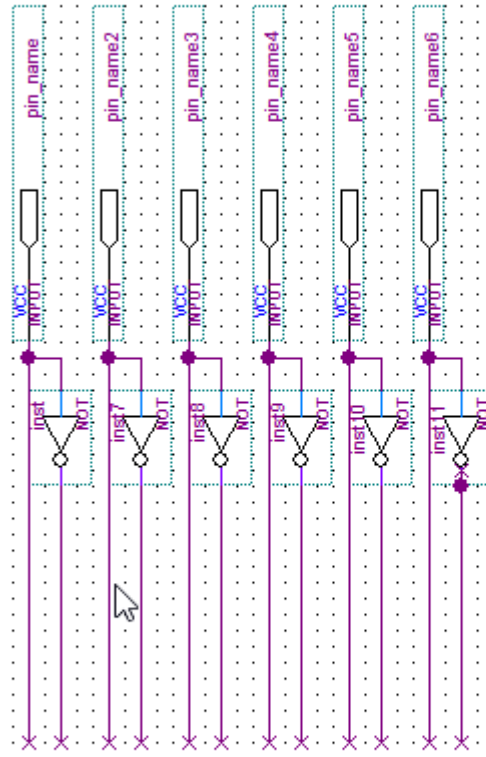
Sexta 08/11 10h às 12h

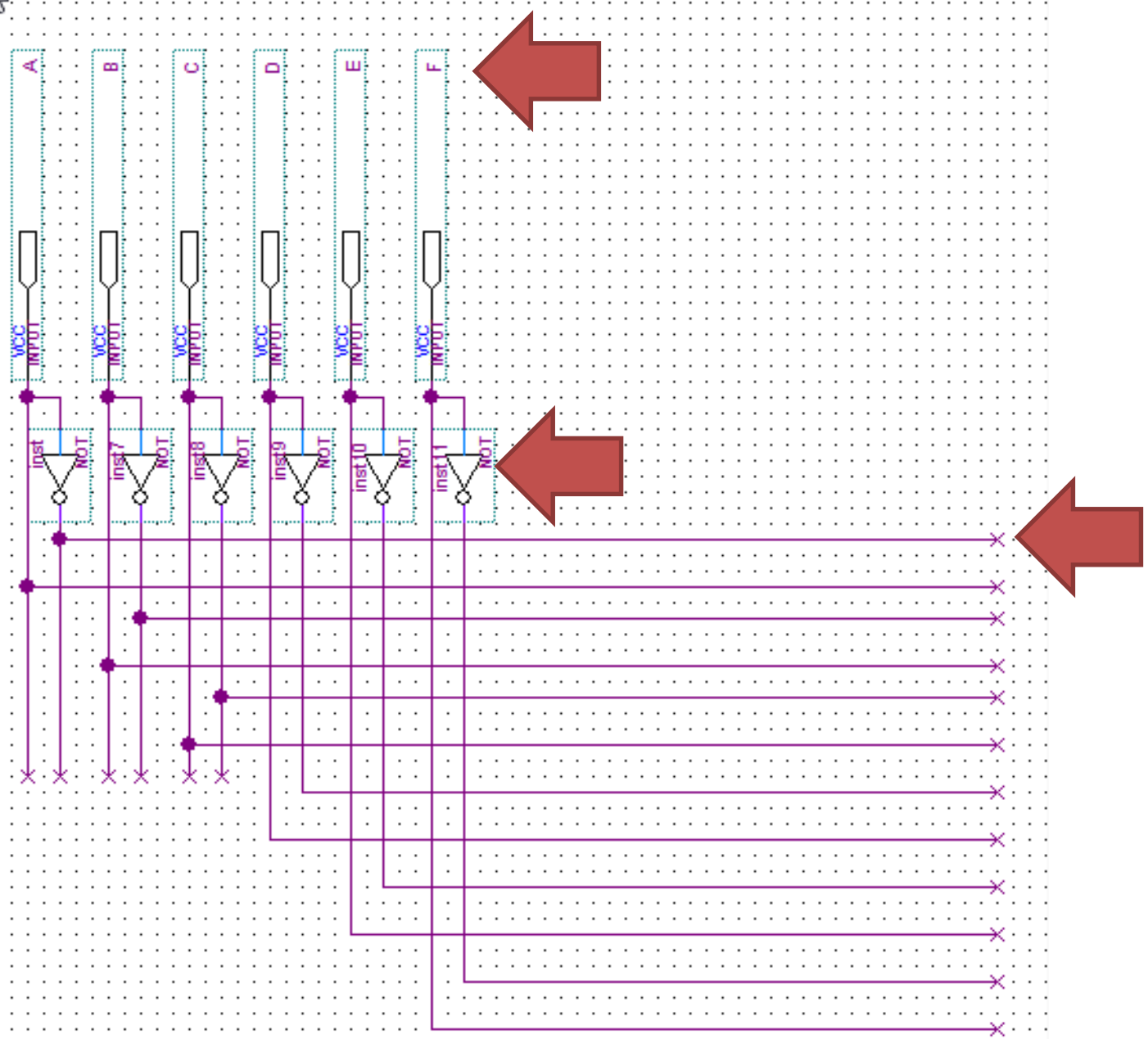
$$A.A' + B.B' + C.C' + D.D' + E.E' \quad ?$$

main/aula1.bdf*



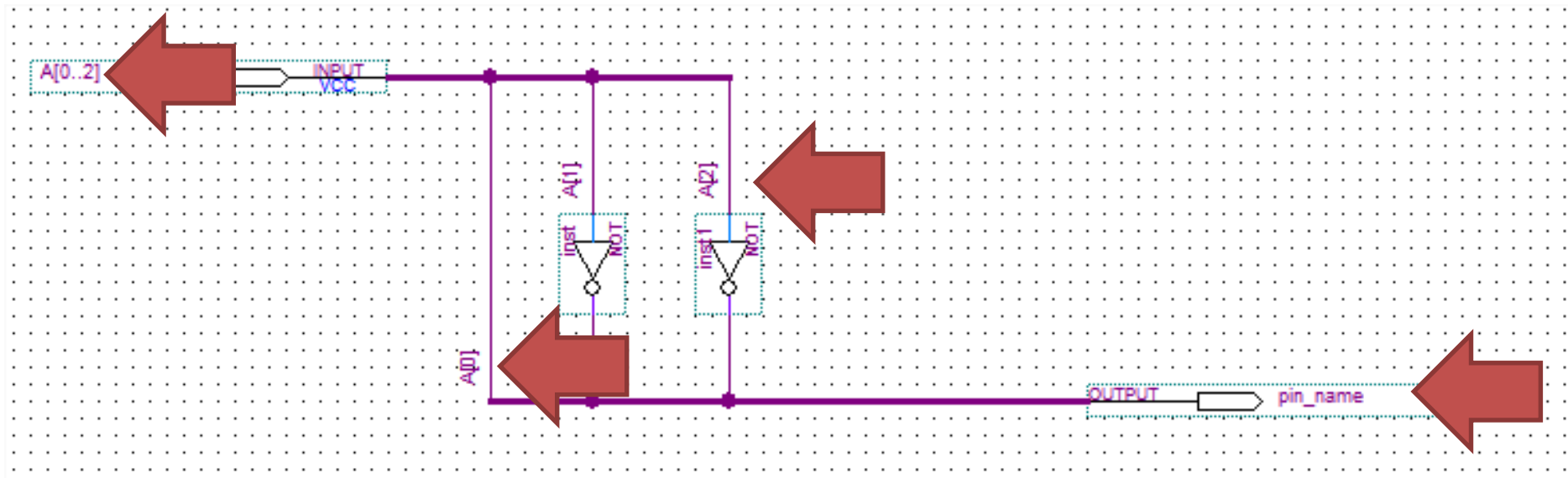






Pequena Revisão:

1. Sistema Binário
2. Representando um número e não 'uma informação'.
3. Ordem da informação
4. Aumentando seu vetor (padronização)
5. Ferramenta Vetor
 1. $A[0 .. N] \leftarrow$ Dois pontos!!!!
 2. $A[N]$



Perguntas?

Exercício 3

3. Construir um arquivo de bloco de diagrama (bdf) utilizando barramento:

$$Y = (((C + D)' + A'.C.D' + A.B'.C' + A.C.D' + A'.C.D'.E').((A' + B) . (A + E + D) . D'))'$$

Tempo : 5 min

4. Construir um símbolo que receba um vetor A que possa representar os números 0 – 7

a)Esse símbolo deve inverte APENAS o valor desse vetor A (Não inverter o sinal).

b)A saída deve estar invertida (Mais significativo -> menos significativo (F) menos significativo -> mais significativo)

c) Trate o sinal como um caso separado, não inverte e tenha um Output somente para ele.

E, por fim, adicione ao projeto inicial.

Tempo: 5 min