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MSC PHD (OR)

Part (i,ii,iii,iv,v):

After runner the code , it will ask the different set of values as per mentioned in the question itself

Upto part (v), ex1_2_3_4_5.sce has been uploaded to moodle and graph of mean and variance of Z as a function of s is :
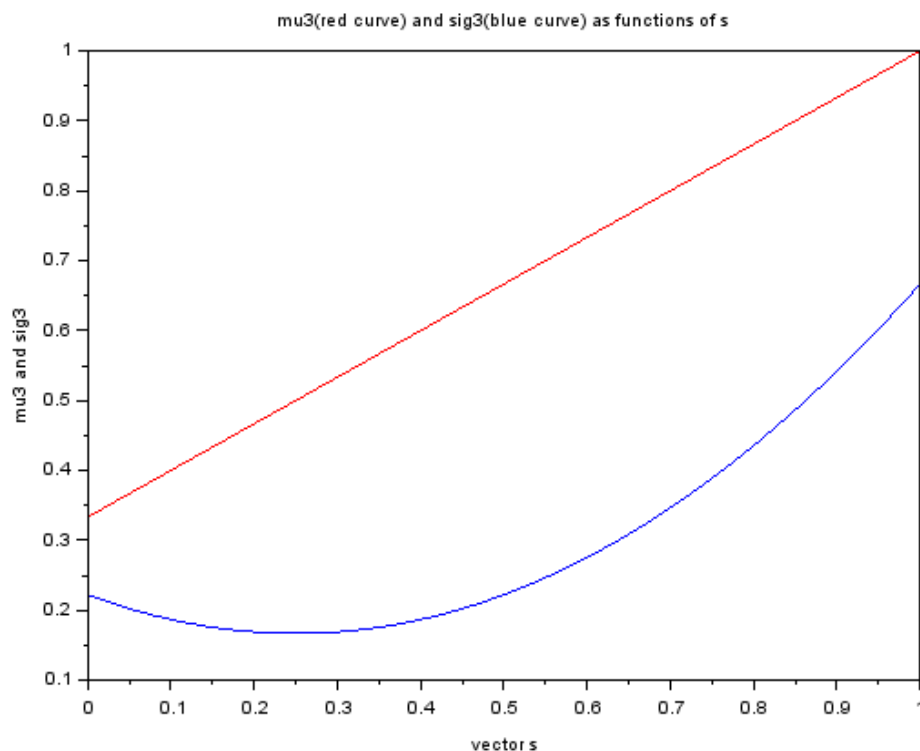
(data has been taken from an example of a book)

rho=0

mu1=1

mu2=1/3

sig1=2/3
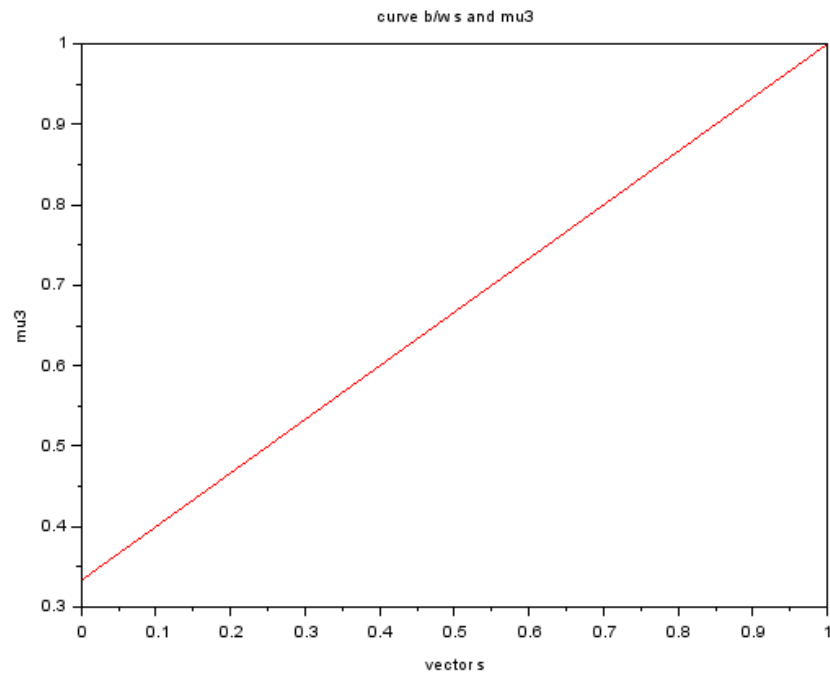
sig2=2/9

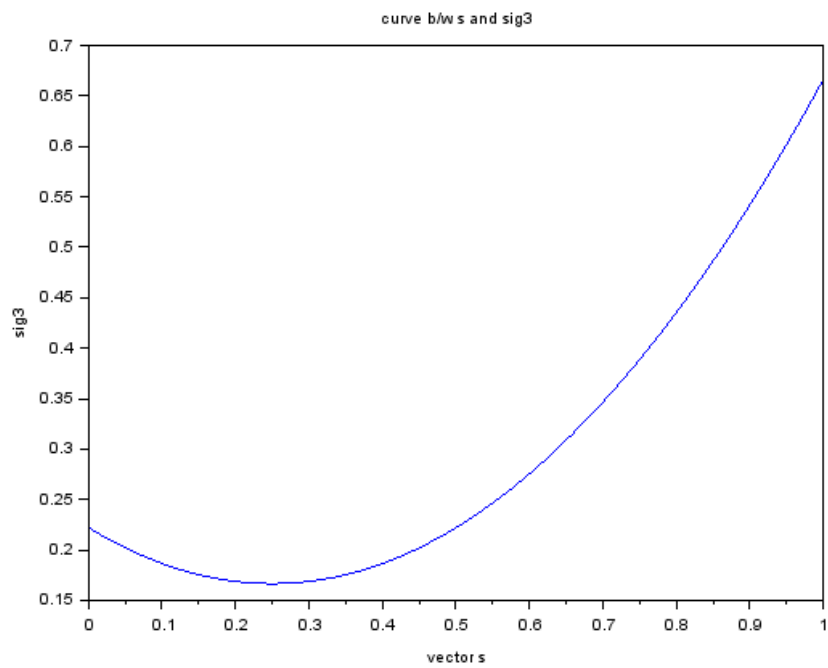MEAN AND VARIANCE AS A FUNCTION OF s:

mu3(red curve) and sig3(blue curve) as functions of s

MEAN AS A FUNCTION OF s :

VARIANCE AS A FUNCTION OF s :

Part (vi)

code file is ex6.sce

GRAPH OF MEAN VS VARIANCE:
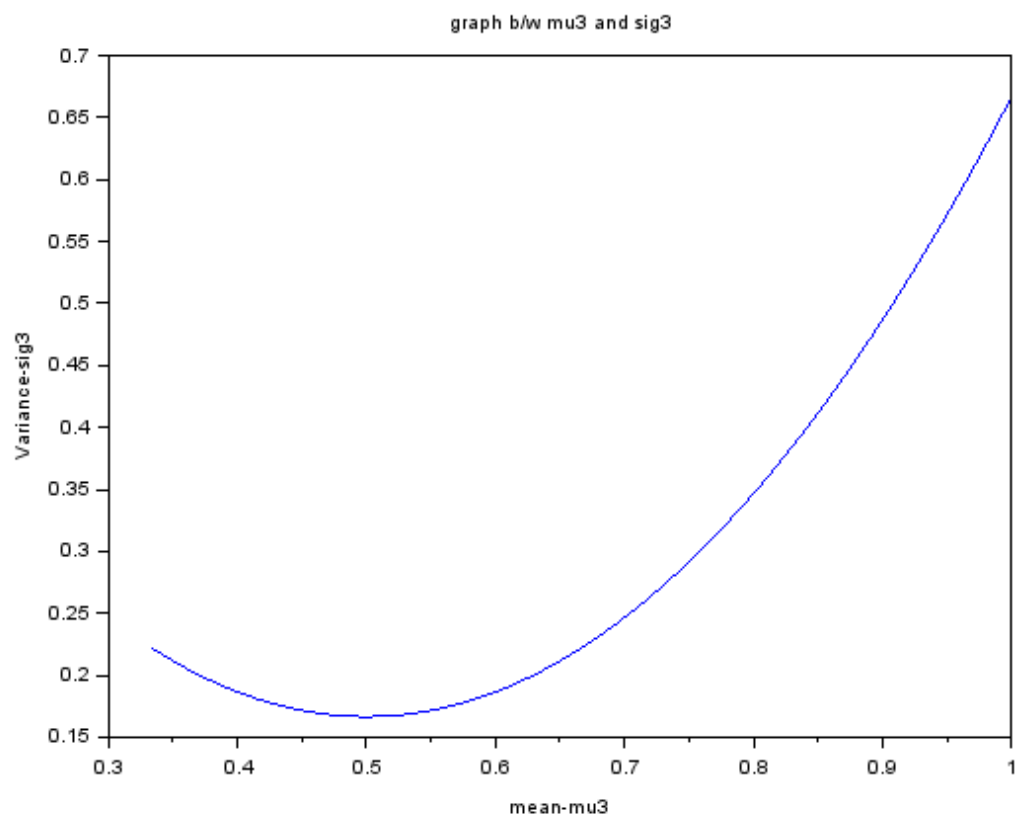
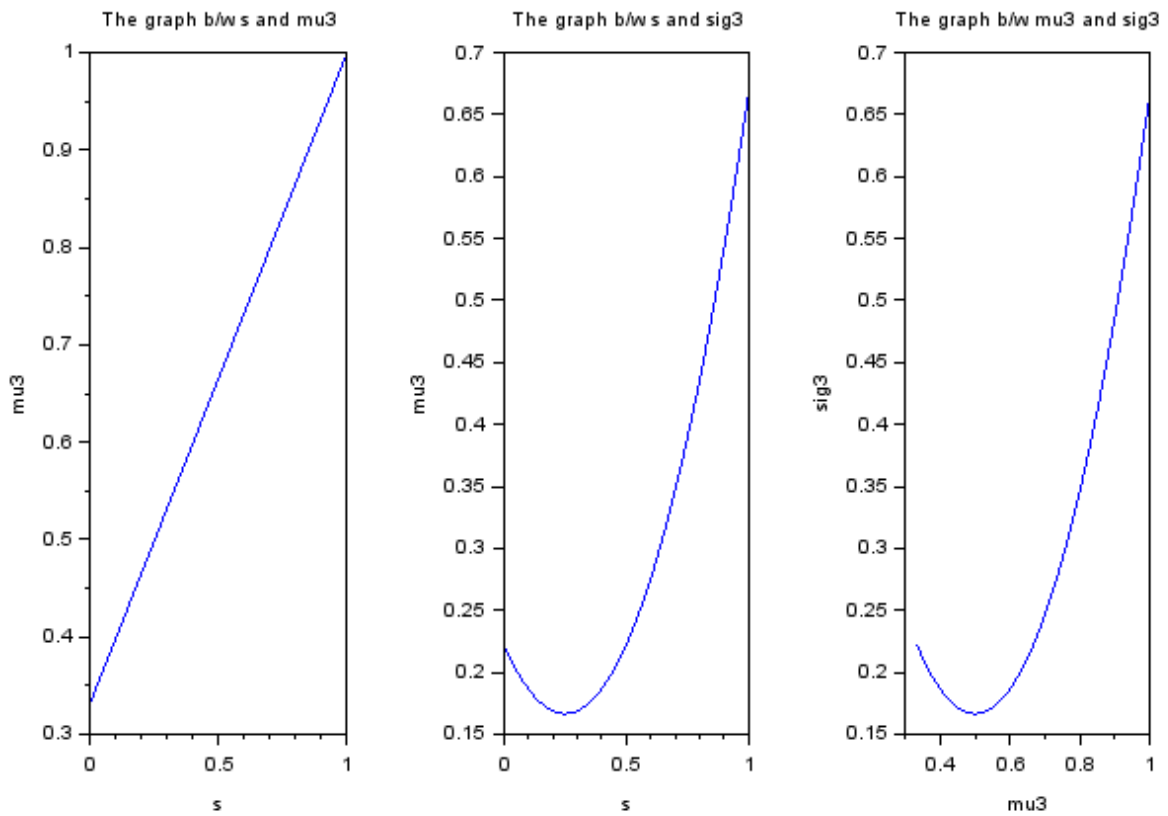(data has been taken from an example of a book)

rho=0

mu1=1

mu2=1/3

sig1=2/3

sig2=2/9

Part (vii)

Sub plot of the three graphs is:

(Code files is ex7a.sce)

| The graph b/w s and mu3 | The graph b/w s and sig3 | The graph b/w mu3 and sig3 |

Part (viii)

Now we have to take value of rho such that X and Y are not independent

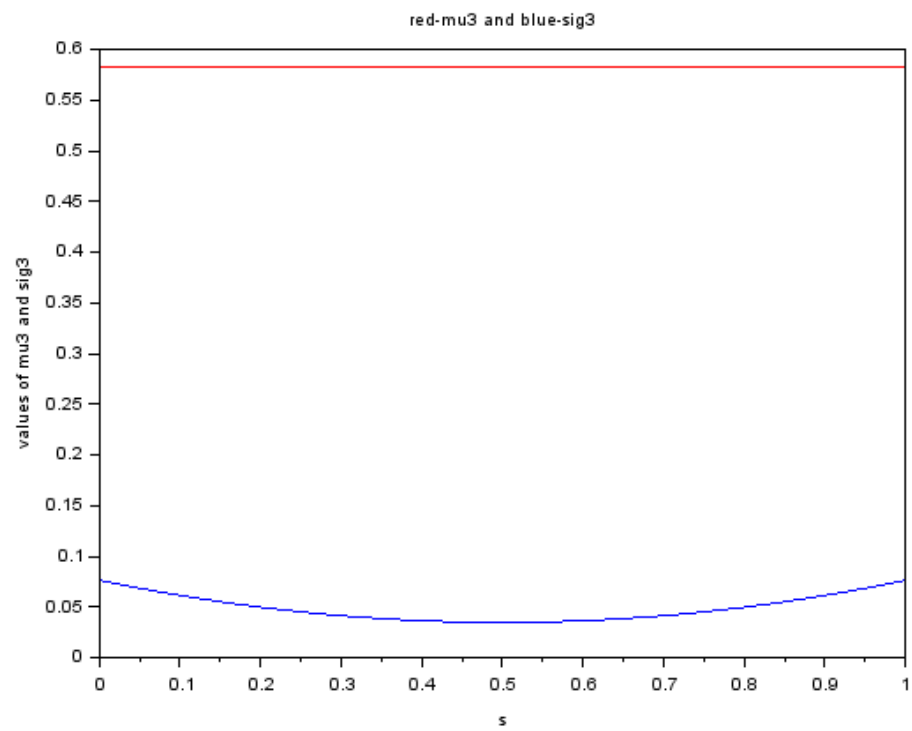(data has been taken from an example of a book)
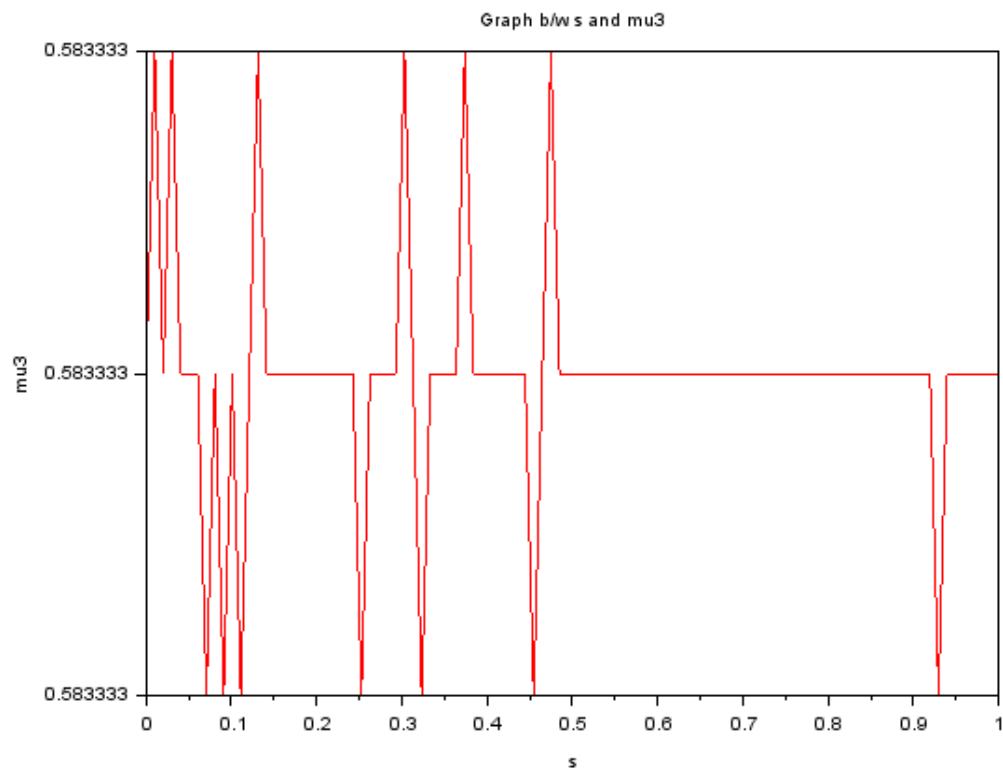
rho=-1/11

mu1=7/12

mu2=7/12

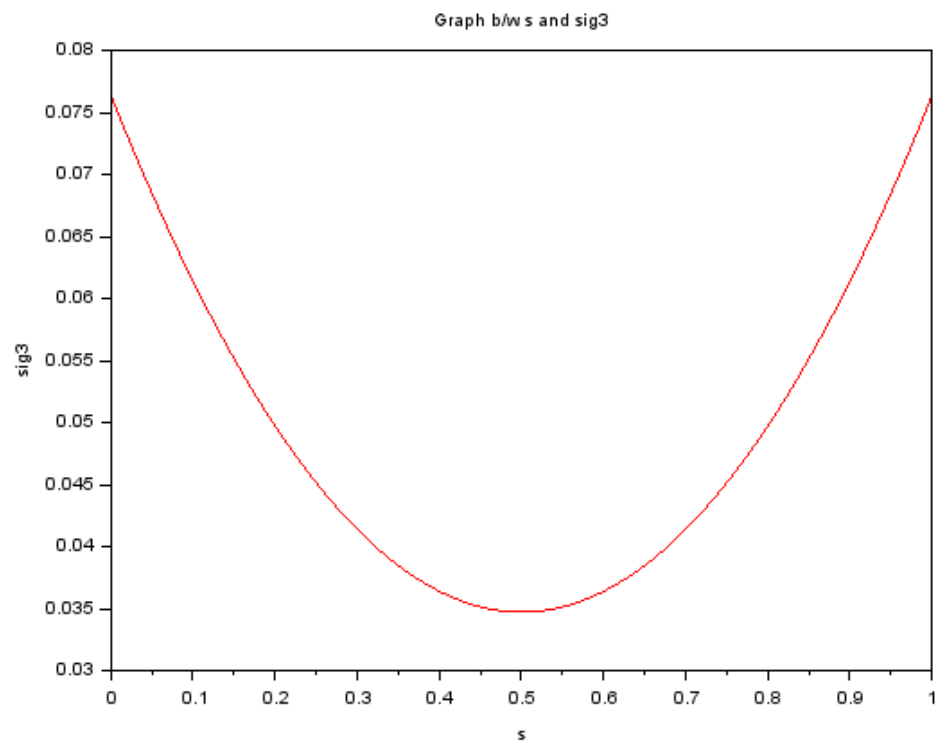sig1=11/144

sig2=11/144

MEAN AND VARIANCE AS A FUNCTION OF s:

(**The code file is ex8b.sce**)

red-mu3 and blue-sig3

MEAN AS A FUNCTION OF s(**The code file is ex8a.sce**):

Graph b/w s and mu3

VARIANCE AS A FUNCTION OF s(**The code file is ex8.sce**):

Graph b/w s and sig3

NOW SUBPLOT OF ALL THE THREE GRAPHS IS(**The code file is ex8d.sce**)

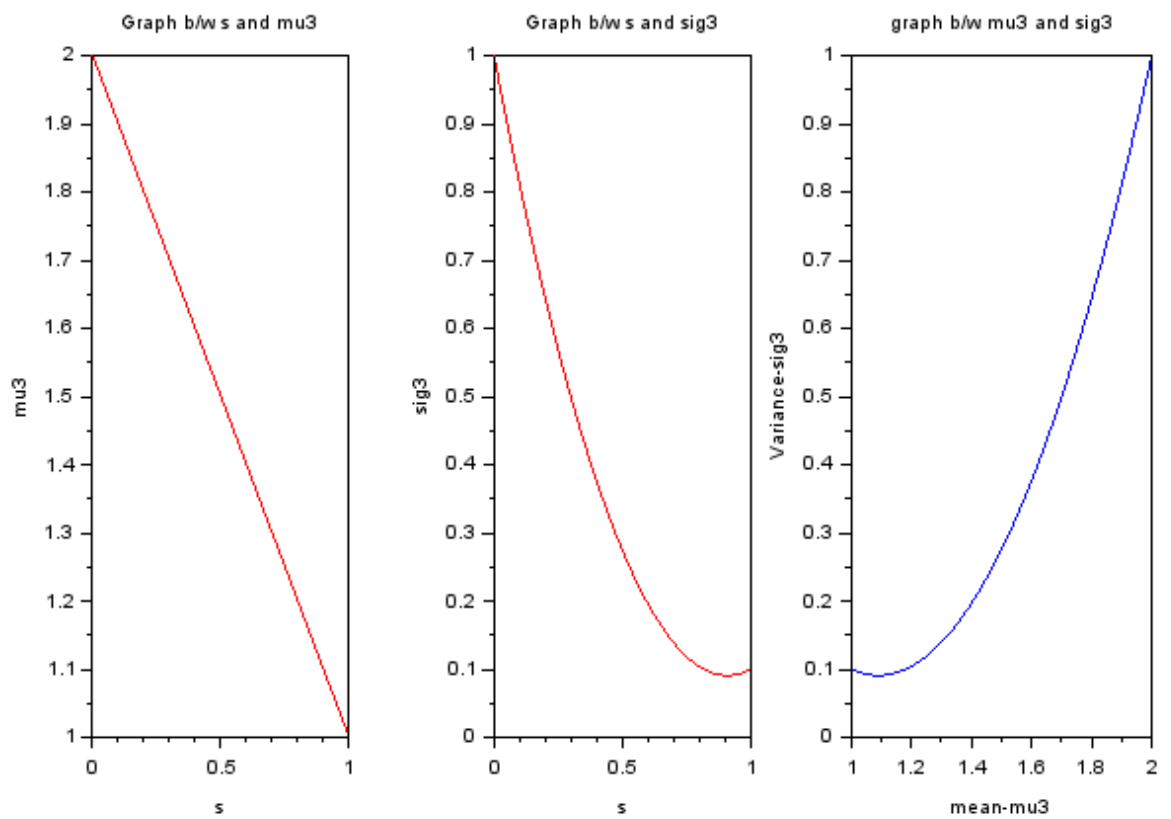Graph b/w s and mu3 · Graph b/w s and sig3 · graph b/w mu3 and sig3

Part (x)

Given

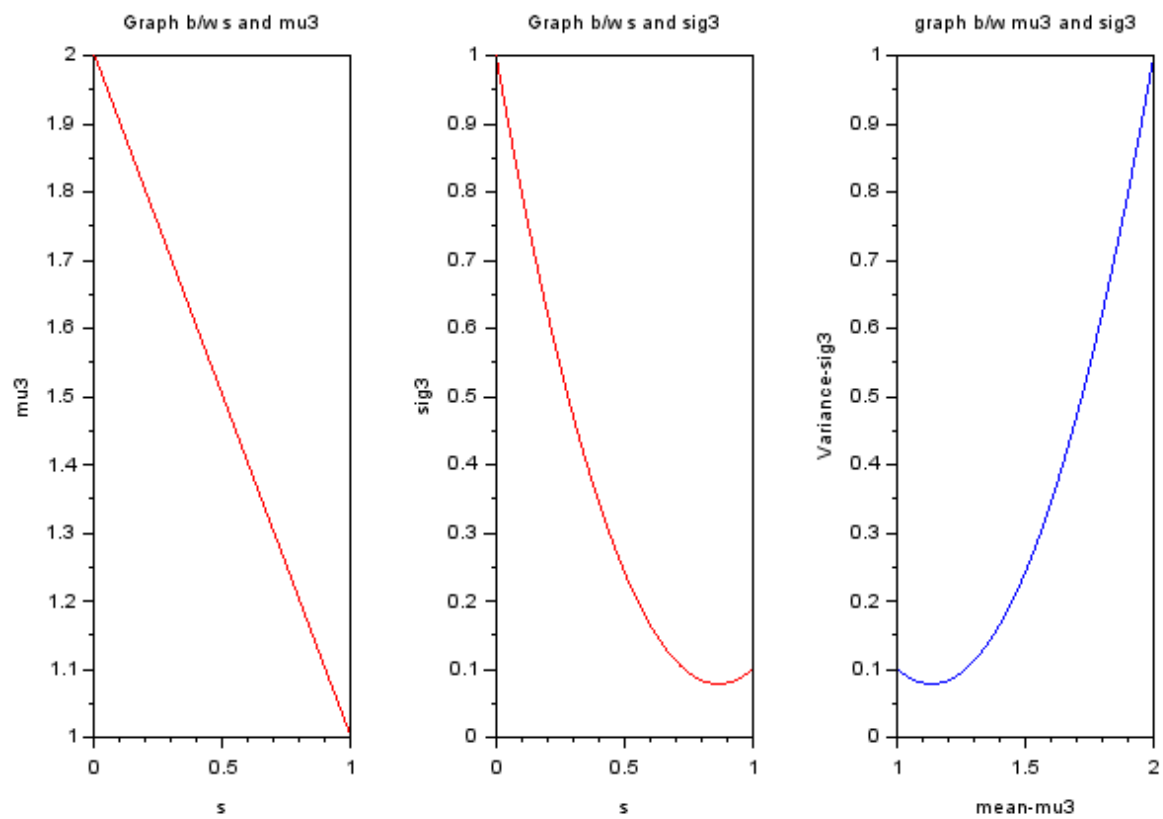mu1=1

sig=0.1

mu2=2
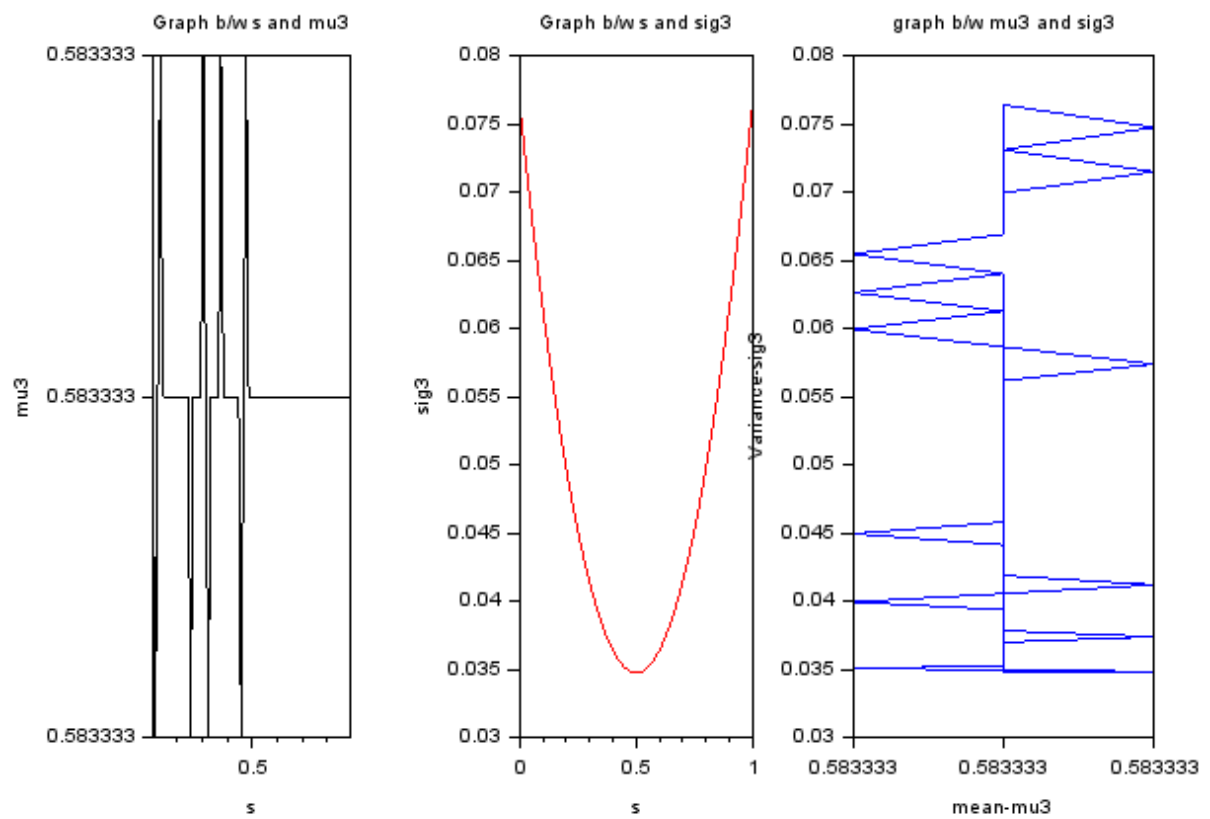
sig2=1

rho=-0.2

1) The one with the independent X and Y is(**code file is ex10a.sce**) :

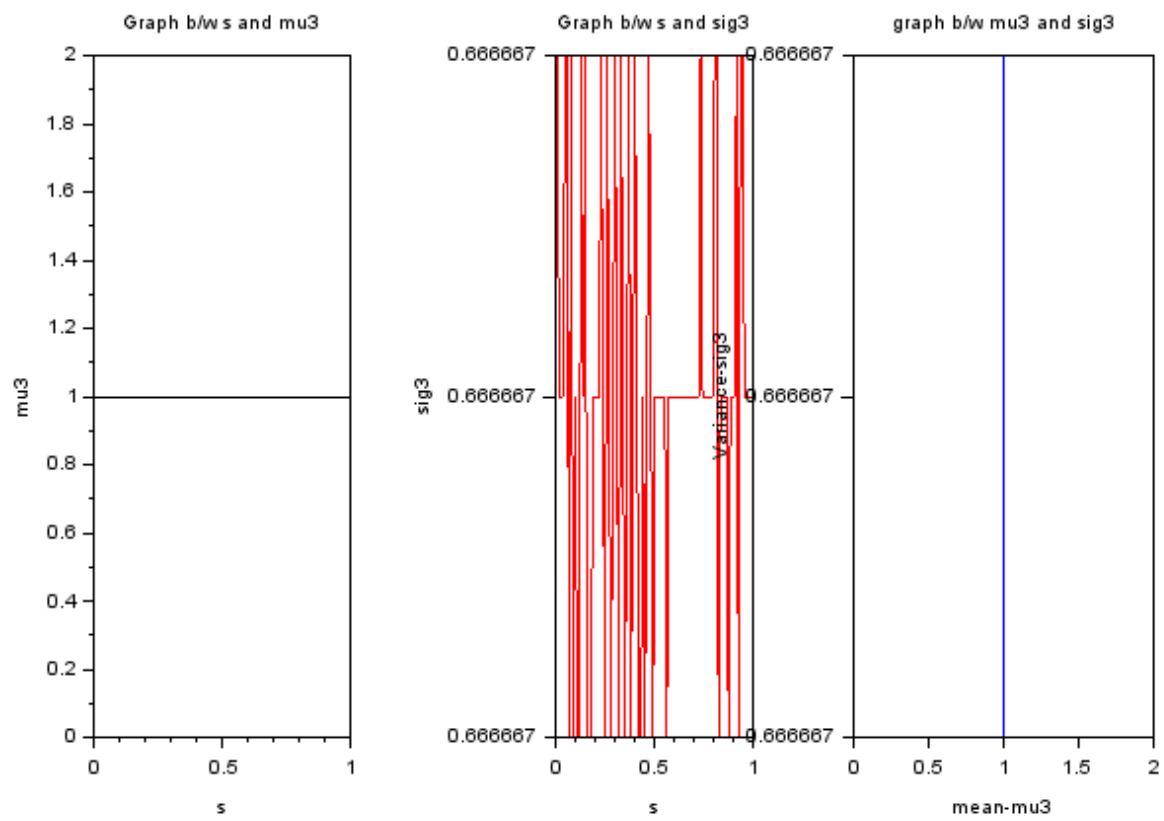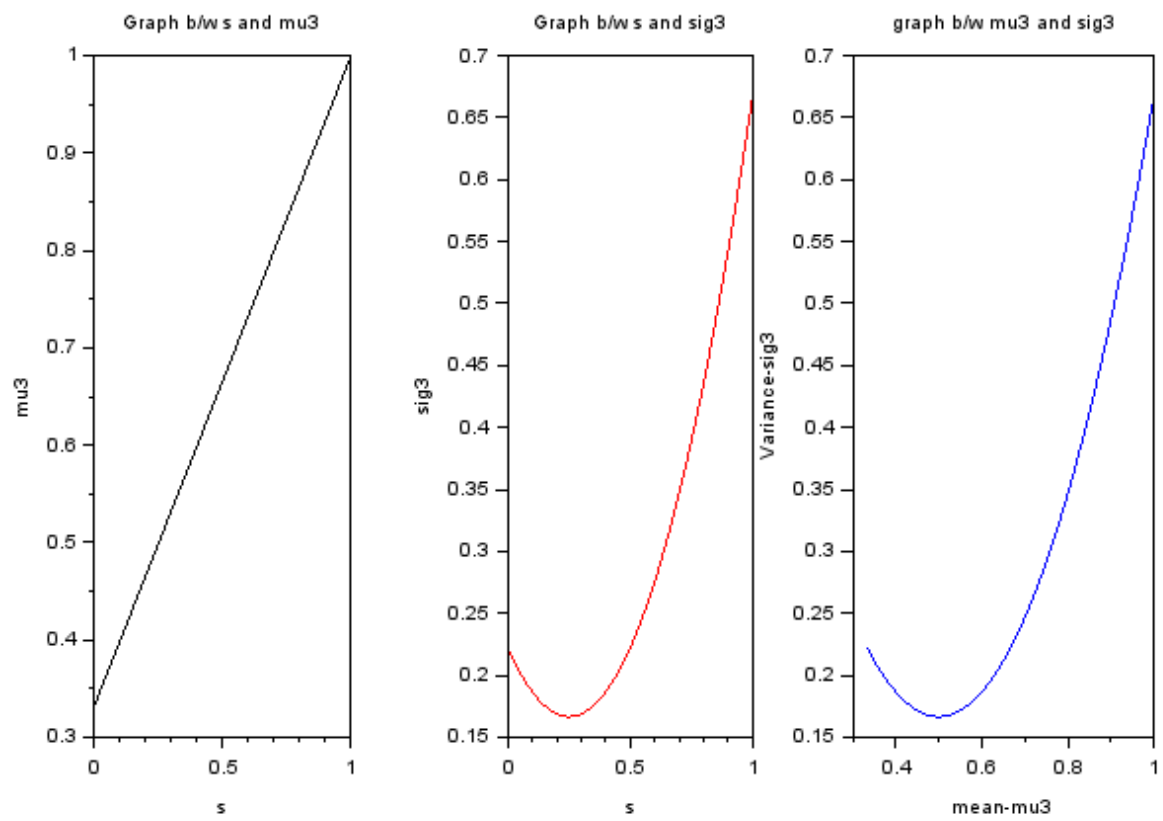2) The subgraph with dependent X and y IS (**the code file is ex10.sce**):

Graph b/w s and mu3   Graph b/w s and sig3   graph b/w mu3 and sig3

Part (ix)

we have taken three examples:

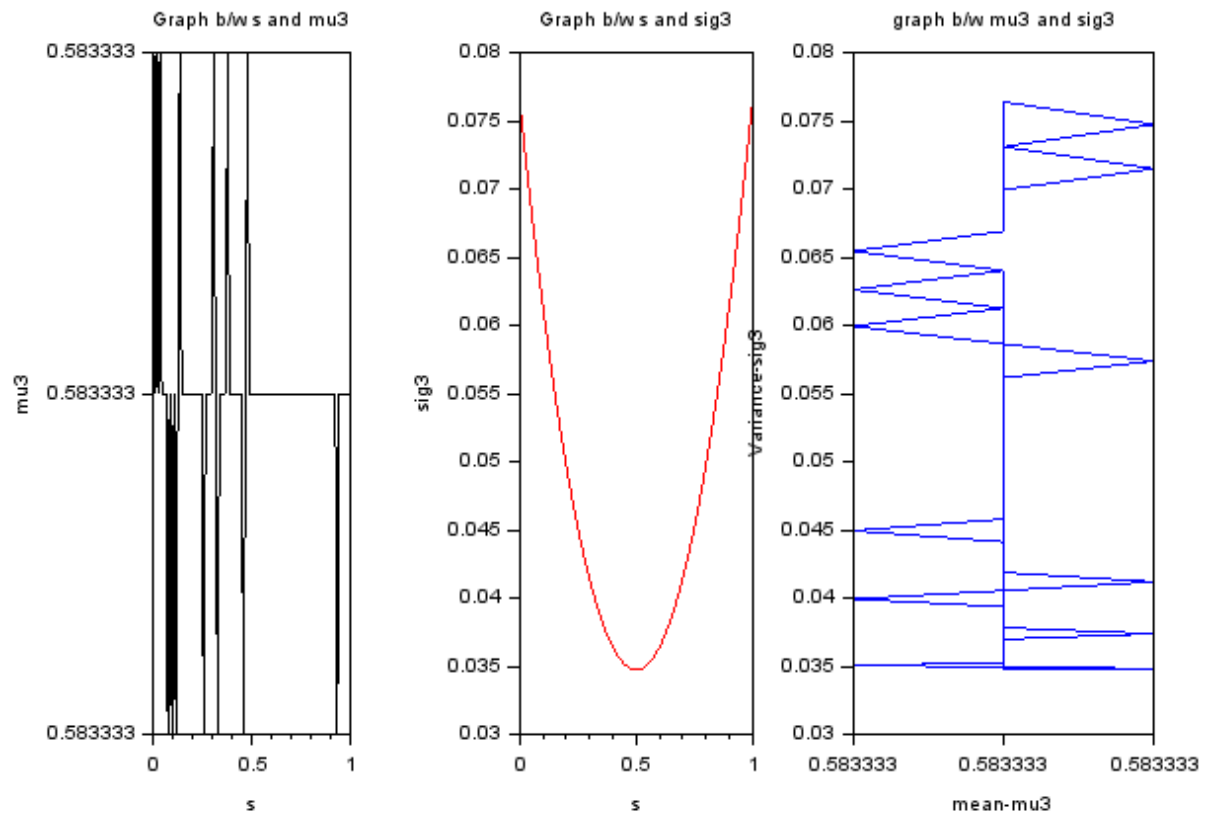| s.no	Rho	Mu1	Mu2	Sig1	Sig2
1	1	1	1	2/3	2/3
2	0	1	1/3	2/3	2/9
3	-1/11	7/12	7/12	11/144	11/144

subplot of 1:

Subplot of 2:

subplot of 3:

we have seen that the graph of mean and s is usually coming linear and the graph of s and varianve is coming convex in most cases