Problem 2

B

A computer screen shot of a program code

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Thus, the optimal value function V\*(x) is:

V\*(1) = -20.82

V\*(2) = -5.9

V\*(3) = -7.67

V\*(4) = -6.12

Problem 3

Python code to set up solver:

A screenshot of a computer program

Description automatically generated

A screen shot of a computer

Description automatically generated

A screen shot of a computer program

Description automatically generated

a.

Value iteration code:

A computer screen shot of text

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Print out for result:

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b.

Policy iteration code:

A screen shot of a computer program

Description automatically generated

Print out for result:

A screenshot of a computer

Description automatically generated

c.

Q-Value iteration code:

A screen shot of a computer code

Description automatically generated

Print out for result:

A screenshot of a computer program

Description automatically generated