Hadi Bagdadi
CS 113
Lab 1

Program Output:

```
Please select an option
1) Define Set A
2) Define Set B
3) Define Set C
4) Display the Data Set
5) Cartesian Product A x B
6) Cartesian Product B x C
7) Cartesian Product (A x B) x C
8) Cartesian Product A x (B x C)
9) Find the Subset
10) Find the Relation R
x) Exit

Your option:1

Enter the number of elements in set A: 2
Enter the elements of set A: 1 2

Please select an option
1) Define Set A
2) Define Set B
3) Define Set C
4) Display the Data Set
5) Cartesian Product A x B
6) Cartesian Product B x C
7) Cartesian Product (A x B) x C
8) Cartesian Product A x (B x C)
9) Find the Subset
10) Find the Relation R
x) Exit

Your option:2

Enter the number of elements in set B: 2
Enter the elements of set B: 2 1
```

```
Please select an option
1) Define Set A
2) Define Set B
3) Define Set C
4) Display the Data Set
5) Cartesian Product A x B
6) Cartesian Product B x C
7) Cartesian Product (A x B) x C
8) Cartesian Product A x (B x C)
9) Find the Subset
10) Find the Relation R
x) Exit

Your option:5

Cartesian Product AxB
1, 2
1, 1
2, 2
2, 1
The length of the Cartesian product is: 4
```

```
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8) Cartesian Product A x (B x C)
9) Find the Subset
10) Find the Relation R
x) Exit

Your option:3

Enter the number of elements in set C: 2
Enter the elements of set C: 1 1

Please select an option
1) Define Set A
2) Define Set B
3) Define Set C
4) Display the Data Set
5) Cartesian Product A x B
6) Cartesian Product B x C
7) Cartesian Product (A x B) x C
8) Cartesian Product A x (B x C)
9) Find the Subset
10) Find the Relation R
x) Exit

Your option:4

Set A: 1 2
Set B: 2 1
Set C: 1 1
```

```
Please select an option
1) Define Set A
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3) Define Set C
4) Display the Data Set
5) Cartesian Product A x B
6) Cartesian Product B x C
7) Cartesian Product (A x B) x C
8) Cartesian Product A x (B x C)
9) Find the Subset
10) Find the Relation R
x) Exit

Your option:6

Cartesian Product BxC
2, 1
2, 1
1, 1
1, 1
The length of the Cartesian product is: 4
```

```
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5) Cartesian Product A x B
6) Cartesian Product B x C
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8) Cartesian Product A x (B x C)
9) Find the Subset
10) Find the Relation R
x) Exit

Your option:7

Cartesian Product (AxB)xC
1, 2, 1
1, 2, 1
1, 1, 1
1, 1, 1
2, 2, 1
2, 2, 1
2, 1, 1
2, 1, 1
The length of the Cartesian product is: 8
```

```
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1) Define Set A
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4) Display the Data Set
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6) Cartesian Product B x C
7) Cartesian Product (A x B) x C
8) Cartesian Product A x (B x C)
9) Find the Subset
10) Find the Relation R
x) Exit

Your option:8

Cartesian Product Ax(BxC)
1, 2, 1
1, 2, 1
1, 1, 1
1, 1, 1
2, 2, 1
2, 2, 1
2, 1, 1
2, 1, 1
The length of the Cartesian product is: 8
```

```
Please select an option
1) Define Set A
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5) Cartesian Product A x B
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8) Cartesian Product A x (B x C)
9) Find the Subset
10) Find the Relation R
x) Exit

Your option:9

Enter number of first set:1
Enter number of second set:2

setA is a subset of setB
```

```
Please select an option
1) Define Set A
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5) Cartesian Product A x B
6) Cartesian Product B x C
7) Cartesian Product (A x B) x C
8) Cartesian Product A x (B x C)
9) Find the Subset
10) Find the Relation R
x) Exit

Your option:9

Enter number of first set:3
Enter number of second set:1

setC is not a subset of setA
```

```
Please select an option
1) Define Set A
2) Define Set B
3) Define Set C
4) Display the Data Set
5) Cartesian Product A x B
6) Cartesian Product B x C
7) Cartesian Product (A x B) x C
8) Cartesian Product A x (B x C)
9) Find the Subset
10) Find the Relation R
x) Exit

Your option:10

Enter number of first set:1
Enter number of second set:1
In relation R
```

```
Please select an option
1) Define Set A
2) Define Set B
3) Define Set C
4) Display the Data Set
5) Cartesian Product A x B
6) Cartesian Product B x C
7) Cartesian Product (A x B) x C
8) Cartesian Product A x (B x C)
9) Find the Subset
10) Find the Relation R
x) Exit

Your option:10

Enter number of first set:1
Enter number of second set:2
Not in relation R
Please select an option
1) Define Set A
2) Define Set B
3) Define Set C
4) Display the Data Set
5) Cartesian Product A x B
6) Cartesian Product B x C
7) Cartesian Product (A x B) x C
8) Cartesian Product A x (B x C)
9) Find the Subset
10) Find the Relation R
x) Exit

Your option:x


Goodbye!
```