```
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

 Define Set C

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)
) 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

 Define Set C

4) Display the Data Set
5) Cartesian Product A x B
6) Cartesian Product B x C
7) Cartesian Product (A \times B) \times 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
The length of the Cartesian product is: 4
```

2, 1

2, 1

1, 1, 1

Program Output:

```
Please select an option
1) Define Set A
Define Set B
3) Define Set C
4) Display the Data Set
  Cartesian Product A x B
6) Cartesian Product B x C
7) Cartesian Product (A x B) x C
8) Cartesian Product A \times (B \times 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

 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

    Define Set A

Define Set B

 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
```

The length of the Cartesian product is: 4

```
Please select an option
                                             Please select an option
1) Define Set A
                                             1) Define Set A
2) Define Set B
                                                Define Set B
                                             2)

 Define Set C

                                             3)
                                                Define Set C
4) Display the Data Set
                                                Display the Data Set
                                                Cartesian Product A x B
5) Cartesian Product A x B
                                                Cartesian Product B x C
6) Cartesian Product B x C
                                                Cartesian Product (A \times B) \times C
7) Cartesian Product (A x B) x C
8) Cartesian Product A x (B x C)
                                             8)
                                                Cartesian Product A x (B x C)
                                                Find the Subset
9) Find the Subset
                                             10) Find the Relation R
10) Find the Relation R
                                             x) Exit
k) Exit
                                             Your option:8
Your option:7
                                             Cartesian Product Ax(BxC)
Cartesian Product (AxB)xC
                                             1, 2, 1
1, 2, 1
1, 2, 1
                                             1,
1, 1, 1
1, 1, 1
                                                2,
  2, 1
                                             2,
2, 2,
                                                1,
2, 1, 1
                                             The length of the Cartesian product is: 8
The length of the Cartesian product is: 8
                                      Please select an option
```

```
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:9
Enter number of first set:1
Enter number of second set:2
setA is a subset of setB
```

Please select an option

4) Display the Data Set

10) Find the Relation R

 Define Set A 2) Define Set B

Define Set C

9) Find the Subset

Your option:10

In relation R

x) Exit

```
1) Define Set A
Define Set B

 Define Set C

4) Display the Data Set
5) Cartesian Product A x B
6) Cartesian Product B x C
7) Cartesian Product (A \times B) \times 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 5) Cartesian Product A x B 6) Cartesian Product B x C 7) Cartesian Product (A x B) x C 8) Cartesian Product $A \times (B \times C)$ Enter number of first set:1 Enter number of second set:1

```
Please select an option

    Define Set A

Define Set B

 Define Set C

4) Display the Data Set
5) Cartesian Product A x B
6) Cartesian Product B x C
7) Cartesian Product (A \times B) \times C
8) Cartesian Product A \times (B \times 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

    Define Set A

Define Set B
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!