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Assignment: 06

Test Case 1:

Inputs (p, g)	Generated Random Values of SA and SB	Outputs (Secret Key)
p = 11 and g = 13	SA = 5 and SB = 4	Secret Key = 1

The screenshot shows a Java IDE with the following code in the editor:

```
//prompt user to input the value of p and g
System.out.println("Please enter p and g");
int p = scan.nextInt();
int g = scan.nextInt();

//set a upperbound and lowerbound to generate random values of SA and SB between 1 to 10.
int upperbound = 10;
int lowerbound = 1;
int SA = lowerbound + rand.nextInt(upperbound);
int SB = lowerbound + rand.nextInt(upperbound);
System.out.println("The value of SA is " + SA);
System.out.println("The value of SB is " + SB);
```

The console output shows the program execution:

```
Welcome to DrJava. Working directory is E:\Dalhousie Study Materials\CSCI 6708\Assignments\Assignment 6\Source Code
> run DiffieHellmanExchange
Please enter p and g
11
13
The value of SA is 5
The value of SB is 4

The secret key is 1
> |
```

Test Case 2:

Inputs (p, g)	Generated Random Values of SA and SB	Outputs (Secret Key)
p = 7 and g = 17	SA = 5 and SB = 10	Secret Key = 2

```

File Edit Tools Project Language Level Help
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DiffieHellamExchange.java
//prompt user to input the value of p and g
System.out.println("Please enter p and g");
int p = scan.nextInt();
int g = scan.nextInt();

//set a upperbound and lowerbound to generate random values of SA and SB between 1 to 10.
int upperbound = 10;
int lowerbound = 1;
int SA = lowerbound + rand.nextInt(upperbound);
int SB = lowerbound + rand.nextInt(upperbound);
System.out.println("The value of SA is " + SA);
System.out.println("The value of SB is " + SB);
System.out.println("");

//Compute TA and TB using SA, SB, p and g

Interactions Console Compiler Output
Welcome to DrJava. Working directory is E:\Dalhousie Study Materials\CSCI 6708\Assignments\Assignment 6\Source Code
> run DiffieHellamExchange
Please enter p and g
7
17
The value of SA is 5
The value of SB is 10

The secret key is 2
>

```

Test Case 3:

Inputs (p, g)	Generated Random Values of SA and SB	Outputs (Secret Key)
p = 17 and g = 13	SA = 9 and SB = 6	Secret Key = 16

```

File Edit Tools Project Language Level Help
New Open Save Close Cut Copy Paste Undo Redo Find Compile Reset Run Test Javadoc
DiffieHellamExchange.java
//prompt user to input the value of p and g
System.out.println("Please enter p and g");
int p = scan.nextInt();
int g = scan.nextInt();

//set a upperbound and lowerbound to generate random values of SA and SB between 1 to 10.
int upperbound = 10;
int lowerbound = 1;
int SA = lowerbound + rand.nextInt(upperbound);
int SB = lowerbound + rand.nextInt(upperbound);
System.out.println("The value of SA is " + SA);
System.out.println("The value of SB is " + SB);

Interactions Console Compiler Output
Welcome to DrJava. Working directory is E:\Dalhousie Study Materials\CSCI 6708\Assignments\Assignment 6\Source Code
> run DiffieHellamExchange
Please enter p and g
17
13
The value of SA is 9
The value of SB is 6

The secret key is 16
>

```