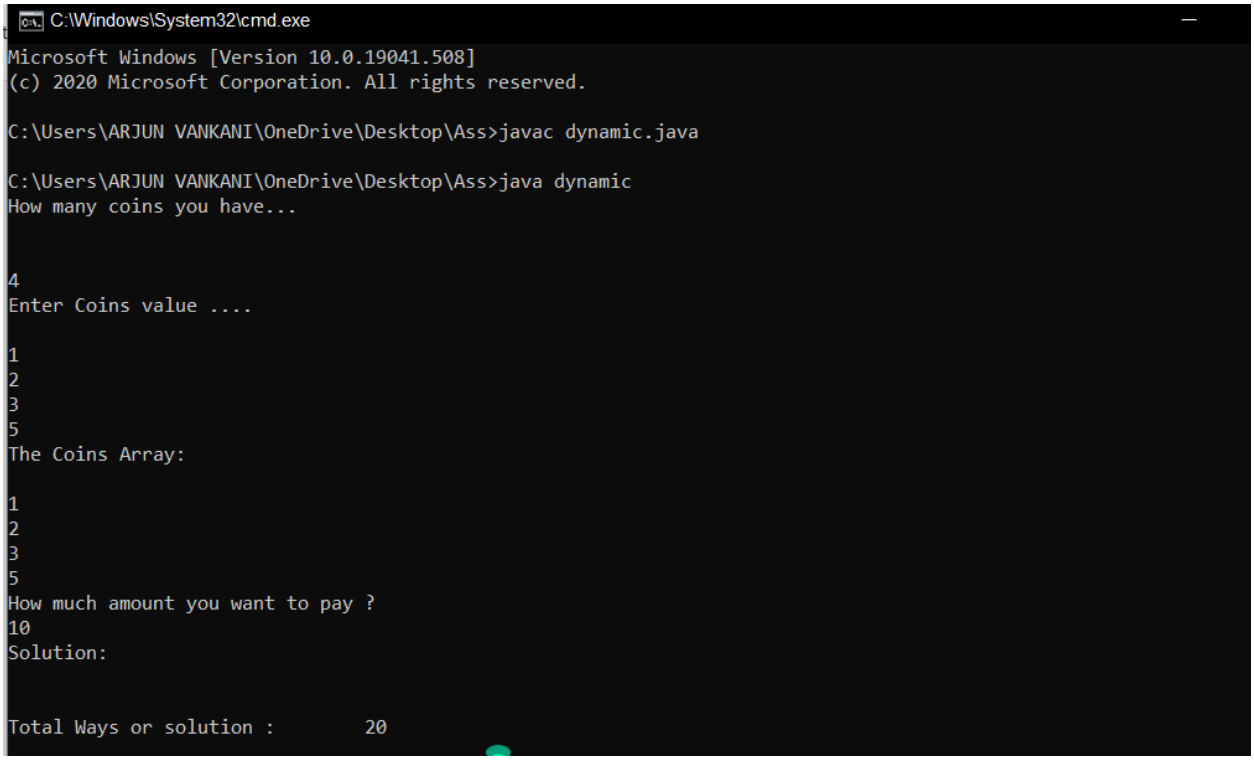
Practical 9: WAP to implement making change problem.

```
import java.util.Scanner;
class dynamic {
	static int getNumberOfWays(int N, int[] Coins)
	{
		int[] ways = new int[(int)N + 1];
		ways[0] = 1;
		for (int i = 0; i < Coins.length; i++) {
			// Make a comparison to each index value
			// of ways with the coin value.
			for (int j = 0; j < ways.length; j++) {
				if (Coins[i] <= j) {
					// Update the ways array
					ways[j] += ways[(int)(j - Coins[i])];
				}
				//System.out.print("\t"+ways[j]);
			}
			//System.out.println();
		}
		// return the value at the Nth position
		// of the ways array.
		System.out.println("\nTotal Ways or solution : \t"+ways[(int)N]);
		return 1;
```

```
	}
	public static void main(String args[])
	{
		Scanner n = new Scanner(System.in);
		int num,pay;
		System.out.println("How many coins you have...\n");
		num = n.nextInt();
		int Coins[]=new int[num];
		System.out.println("Enter Coins value ....\n");
		for(int i=0;i<num;i++)
			{
				Coins[i]= n.nextInt();
			}
		System.out.println("The Coins Array:\n");
		for (int i : Coins)
			System.out.println(i);
		System.out.println("How much amount you want to pay ?\t");
		pay = n.nextInt();
		System.out.println("Solution:\n");
		getNumberOfWays(pay, Coins);
	}
}
```

Output:


C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19041.508]
(c) 2020 Microsoft Corporation. All rights reserved.
C:\Users\ARJUN VANKANI\OneDrive\Desktop\Ass>javac dynamic.java
C:\Users\ARJUN VANKANI\OneDrive\Desktop\Ass>java dynamic
How many coins you have...
4
Enter Coins value ....
1
2
3
5
The Coins Array:
1
2
3
5
How much amount you want to pay ?
10
Solution:
Total Ways or solution : 20