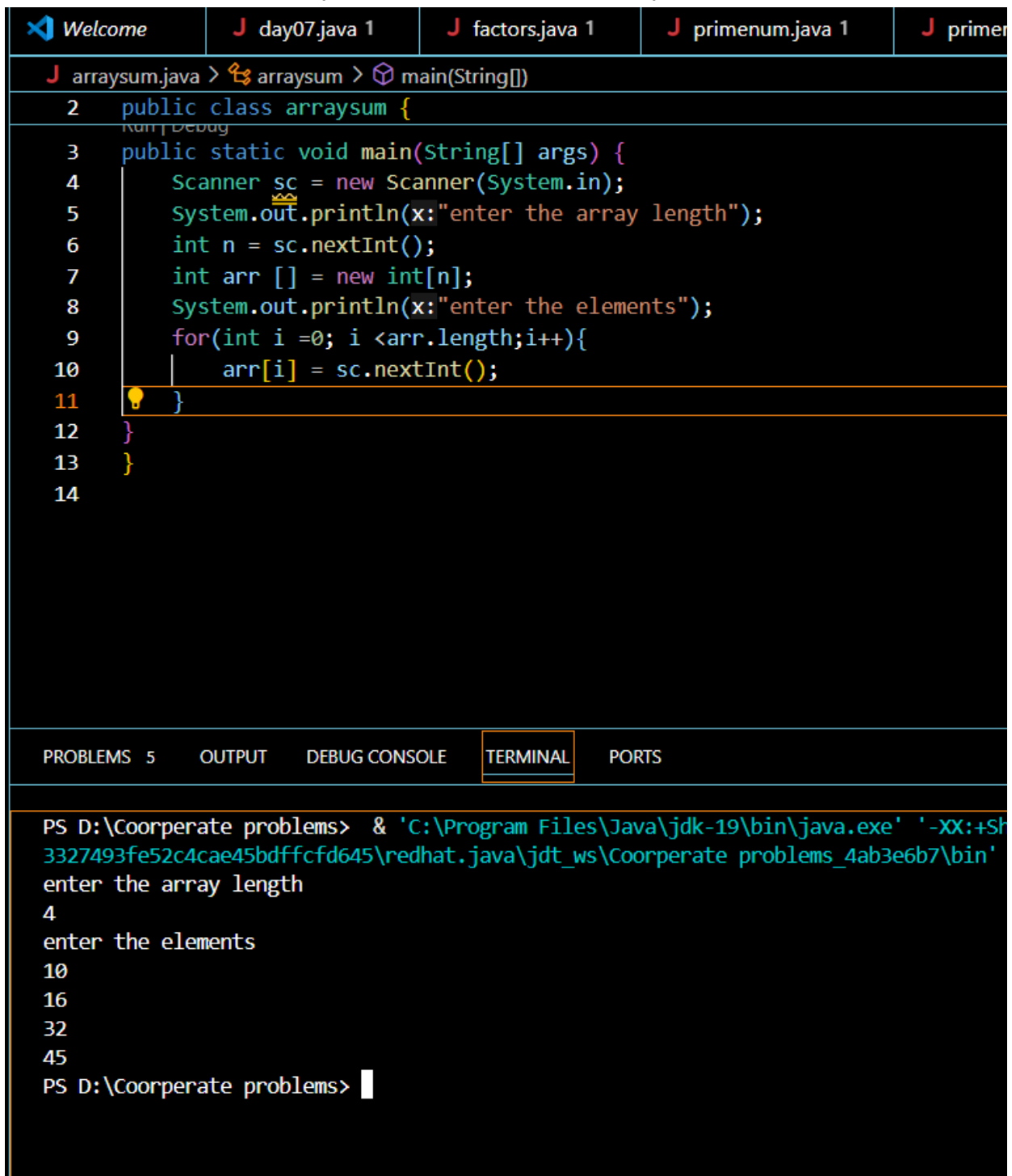


Array Problems (Basic problems - Set 01)

1. Declare and initialize an array, 2. Take input and store in array



The image shows an IDE window with several tabs: 'Welcome', 'day07.java 1', 'factors.java 1', 'primenum.java 1', and 'primer'. The active tab is 'day07.java 1', which contains the following Java code:

```
1  arraysun.java > arraysun > main(String[])
2  public class arraysun {
3      public static void main(String[] args) {
4          Scanner sc = new Scanner(System.in);
5          System.out.println(x:"enter the array length");
6          int n = sc.nextInt();
7          int arr [] = new int[n];
8          System.out.println(x:"enter the elements");
9          for(int i =0; i <arr.length;i++){
10             arr[i] = sc.nextInt();
11         }
12     }
13 }
14
```

Below the code editor is a terminal window with the following output:

```
PS D:\Cooperate problems> & 'C:\Program Files\Java\jdk-19\bin\java.exe' '-XX:+Sh
3327493fe52c4cae45bdfcfd645\redhat.java\jdt_ws\Cooperate problems_4ab3e6b7\bin'
enter the array length
4
enter the elements
10
16
32
45
PS D:\Cooperate problems>
```

3. Print all elements of an array

WelcomeJ day07.java 1J factors.java 1J primenum.java 1J primerange.java 1J digitcount

J arraysum.java > Run Debugmain(String[])

```
2 public class arraysum {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println(x:"enter the array length");
6         int n = sc.nextInt();
7         int arr [] = new int[n];
8         System.out.println(x:"enter the elements");
9         for(int i =0; i <arr.length;i++){
10             | arr[i] = sc.nextInt();
11         }
12         System.out.println(x:"the array elemts are : ");
13         for(int i=0;i < arr.length;i++){
14             | System.out.println(arr[i]);
15         }
16     }
17 }
18
```

PROBLEMS 5OUTPUTDEBUG CONSOLETERMINALPORTS

```
enter the array length
5
enter the elements
10
11
12
13
14
the array elemts are :
10
11
12
13
14
PS D:\Cooperate_problems>
```

4.Find the length of an array

```
J arraysum.java > arraysum > main(String[])
2 public class arraysum {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println(x:"enter the array length");
6         int n = sc.nextInt();
7         int arr [] = new int[n];
8         System.out.println(x:"enter the elements");
9         for(int i =0; i <arr.length;i++){
10             arr[i] = sc.nextInt();
11         }
12         //finding the length of the array
13         int arrayLength = arr.length;
14         System.out.println("the length of the array is : " + arrayLength);
15     }
16 }
17
```

PROBLEMS 5 OUTPUT DEBUG CONSOLE **TERMINAL** PORTS

```
PS D:\Cooperate problems> & 'C:\Program Files\Java\jdk-19\bin\java.exe' '-XX:+ShowCodeDet
3327493fe52c4cae45bdffcf645\redhat.java\jdt_ws\Cooperate problems_4ab3e6b7\bin' 'arraysum
enter the array length
3
enter the elements
65
45
35
the length of the array is : 3
PS D:\Cooperate problems>
```

5.Access specific index

```
Welcome | J day07.java 1 | J factors.java 1 | J primenum.java 1 | J primerange.java 1 | J digitcount.j
J arraysum.java > Run | arraysum > main(String[])
1 import java.util.*;
2 public class arraysum {
  Run | Debug
3 public static void main(String[] args) {
4     Scanner sc = new Scanner(System.in);
5     System.out.println(x:"enter the array length");
6     int n = sc.nextInt();
7     int arr [] = new int[n];
8     System.out.println(x:"enter the elements");
9     for(int i =0; i <arr.length;i++){
10         arr[i] = sc.nextInt();
11     }
12     //finding the length of the array
13     int arrayLength = arr.length;
14     System.out.println("the length of the array is : " + arrayLength);
15     //accessing th element through the index
16     for(int i =0 ; i < arr.length;i++){
17         System.out.println("the element at the index " + i +"is :" + arr[i] );
18     }
19 }
20 }
21

PROBLEMS 5 | OUTPUT | DEBUG CONSOLE | TERMINAL | PORTS
PS D:\Cooperate problems> & 'C:\Program Files\Java\jdk-19\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMes
3327493fe52c4cae45bdfcfd645\redhat.java\jdt_ws\Cooperate problems_4ab3e6b7\bin' 'arraysum'
enter the array length
3
enter the elements
67
54
38
the length of the array is : 3
the element at the index 0is :67
the element at the index 1is :54
the element at the index 2is :38
PS D:\Cooperate problems> |
```

6.Sum of all elements

Welcome	day07.java 1	factors.java 1	primenum.java 1	primerange.java 1	digit
---------	--------------	----------------	-----------------	-------------------	-------

```
J arraysum.java > arraysum > main(String[])
1  import java.util.*;
2  public class arraysum {
    Run | Debug
3  public static void main(String[] args) {
4      Scanner sc = new Scanner(System.in);
5      System.out.println(x:"enter the array length");
6      int n = sc.nextInt();
7      int arr [] = new int[n];
8      System.out.println(x:"enter the elements");
9      for(int i =0; i <arr.length;i++){
10         |   arr[i] = sc.nextInt();
11     }
12     // sum of the elements of the array
13     int sum = 0;
14     for(int i =0; i < arr.length;i++){
15         |   sum += arr[i];
16     }
17     System.out.println("the sum of the elements of the array : " + sum);
18 }
19 }
20
```

PROBLEMS 5	OUTPUT	DEBUG CONSOLE	TERMINAL	PORTS
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```
PS D:\Cooperate problems> ^C
PS D:\Cooperate problems>
PS D:\Cooperate problems> d:; cd 'd:\Cooperate problems'; & 'C:\Program Files\Java\jdk-19\bin\java.exe' %*
enter the array length
5
enter the elements
23
34
45
56
67
the sum of the elements of the array : 225
PS D:\Cooperate problems>
```

7.Average of array elements

WelcomeJ day07.java 1J factors.java 1J primum.java 1J primerange.java

J arraysum.java > ...

```
1 import java.util.*;
2 public class arraysum {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println("enter the array length");
6         int n = sc.nextInt();
7         int arr [] = new int[n];
8         System.out.println("enter the elements");
9         for(int i =0; i <arr.length;i++){
10             arr[i] = sc.nextInt();
11         }
12         // avg of the elements of the array
13         int sum =0;
14         for(int i =0; i < arr.length;i++){
15             sum += arr[i];
16         }
17         System.out.println("the sum of the elemnts is : " + sum);
18         int totalelements = arr.length;
19         int avg = sum/totalelements;
20         System.out.println("the avg of the elemnts is : " + avg);
21     }
22 }
23
```

PROBLEMS 5OUTPUTDEBUG CONSOLETERMINALPORTS

enter the array length
4
enter the elements
65
74
82
91
the sum of the elemnts is : 312
the avg of the elemnts is : 78
PS D:\Cooperate problems>

0 5 Java: Ready

5 23°C

8.Find maximum element

WelcomeJ day07.java 1J factors.java 1J primenum.java 1J primerange.java

J arraysum.java > arraysum > main(String[])

```
1 import java.util.*;
2 public class arraysum {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         System.out.println(x:"enter the array length");
6         int n = sc.nextInt();
7         int arr [] = new int[n];
8         System.out.println(x:"enter the elements");
9         for(int i =0; i <arr.length;i++){
10             arr[i] = sc.nextInt();
11         }
12         // max element
13         int max = arr[0];
14         for(int i =0; i <arr.length;i++){
15             if(arr[i] > max){
16                 max = arr[i];
17             }
18         }
19         System.out.println("the maximum element in the array is : " + max);
20     }
21 }
22 }
23
```

PROBLEMS 5OUTPUTDEBUG CONSOLETERMINALPORTS

enter the array length
5
enter the elements
5
8
10
13
2
the maximum element in the array is : 13
PS D:\Cooperate problems>

9.Find minimum element

```
J arraysum.java > arraysum > main(String[])
1  import java.util.*;
2  public class arraysum {
    Run | Debug
3  public static void main(String[] args) {
4      Scanner sc = new Scanner(System.in);
5      System.out.println(x:"enter the array length");
6      int n = sc.nextInt();
7      int arr [] = new int[n];
8      System.out.println(x:"enter the elements");
9      for(int i =0; i <arr.length;i++){
10         arr[i] = sc.nextInt();
11     }
12     // min element
13     int min = arr[0];
14     for(int i =0; i <arr.length;i++){
15         if(arr[i] < min){
16             min = arr[i];
17         }
18     }
19     System.out.println("the minimum element in the array is : " + min);
20
21 }
22 }
23
```

PROBLEMS 5 OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS D:\Cooperate problems> & 'C:\Program Files\Java\jdk-19\bin\java.exe' '-XX:+ShowCodeDetailsIn
3327493fe52c4cae45bdfcfd645\redhat.java\jdt_ws\Cooperate problems_4ab3e6b7\bin' 'arraysum'
enter the array length
3
enter the elements
15
99
34
the minimum element in the array is : 15
PS D:\Cooperate problems>
```

0 5 Java: Ready

10.Count even and odd elements

welcome | day07.java | factors.java | primenum.java | primeran

arraysum.java > ...

```
1  import java.util.*;
2  public class arraysum {
    Run | Debug
3  public static void main(String[] args) {
4      int arr[] = {32,64,71,95,84,101};
5      int eventcount =0;
6      int oddcount =0;
7      for(int i =0; i < arr.length ; i++){
8          if(arr[i]%2==0){
9              eventcount++;
10         }
11         else{
12             oddcount++;
13         }
14     }
15     System.out.println("the even num count is : " + eventcount);
16     System.out.println("the odd num count is : " + oddcount);
17
18 }
19 }
20
```

PROBLEMS 5 | OUTPUT | DEBUG CONSOLE | **TERMINAL** | PORTS

```
PS D:\Cooperate problems> & 'C:\Program Files\Java\jdk-19\bin\java.exe' '-XX:+Show
3327493fe52c4cae45bdffcf645\redhat.java\jdt_ws\Cooperate problems_4ab3e6b7\bin' 'a
the even num count is : 3
the odd num count is : 3
PS D:\Cooperate problems>
```

11.Reverse the array

Welcome

day07.java 1

factors.java 1

primenum.java 1

p

arraysum.java > arraysun > main(String[])

```
1  import java.util.*;
2  public class arraysum {
    Run | Debug
3  public static void main(String[] args) {
4      int arr[] = {32,64,71,95,84,101};
5      int start=0;
6      int end = arr.length-1;
7      while(start < end){
8          int temp=arr[start];
9          arr[start] = arr[end];
10         arr[end] = temp;
11         start ++;
12         end --;
13     }
14     System.out.println(x:"reversed array");
15     for(int i=0; i <arr.length;i++){
16         System.out.print(arr[i] + "  ");
17     }
18
19
20 }
21 }
22
```

PROBLEMS 5

OUTPUT

DEBUG CONSOLE

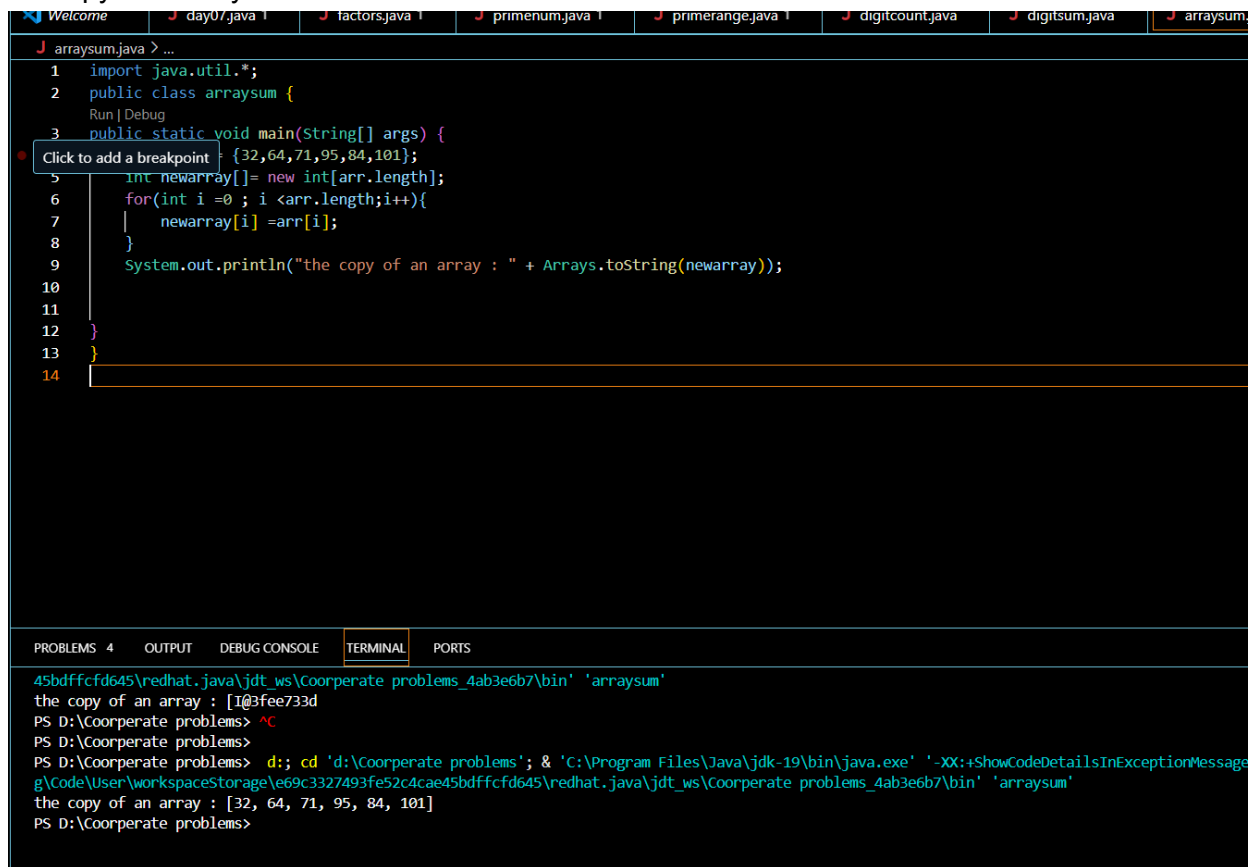
TERMINAL

PORTS

```
g\Code\User\workspaceStorage\e69c3327493fe52c4cae45bdffcf645\redhat.java\jdt_
reversed array
1018495716432
PS D:\Cooperate problems> ^C
PS D:\Cooperate problems>
PS D:\Cooperate problems> d:; cd 'd:\Cooperate problems'; & 'C:\Program Fil
g\Code\User\workspaceStorage\e69c3327493fe52c4cae45bdffcf645\redhat.java\jdt_
reversed array
101  84  95  71  64  32
PS D:\Cooperate problems>
```

0 5 Java: Ready

12. Copy one array into another



The screenshot shows an IDE with a tab for `arraysum.java`. The code in the editor is as follows:

```
1 import java.util.*;
2 public class arraysum {
3     public static void main(String[] args) {
4         int[] arr = {32, 64, 71, 95, 84, 101};
5         int newarray[] = new int[arr.length];
6         for(int i = 0; i < arr.length; i++){
7             newarray[i] = arr[i];
8         }
9         System.out.println("the copy of an array : " + Arrays.toString(newarray));
10    }
11 }
12 }
13 }
14 }
```

A tooltip "Click to add a breakpoint" is visible over line 4. The bottom of the IDE shows a terminal window with the following output:

```
45bdfcfd645\redhat.java\jdt_ws\Cooperate problems_4ab3e6b7\bin' 'arraysum'
the copy of an array : [I@3fee733d
PS D:\Cooperate problems> ^C
PS D:\Cooperate problems>
PS D:\Cooperate problems> d;; cd 'd:\Cooperate problems'; & 'C:\Program Files\Java\jdk-19\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessage'
g\Code\User\workspaceStorage\e69c3327493fe52c4cae45bdfcfd645\redhat.java\jdt_ws\Cooperate problems_4ab3e6b7\bin' 'arraysum'
the copy of an array : [32, 64, 71, 95, 84, 101]
PS D:\Cooperate problems>
```

13. Search for an element (Linear Search)

14. Check if array contains a value

```
J arraysum.java > arraysum > main(String[])
1  import java.util.*;
2  public class arraysum {
    Run | Debug
3  public static void main(String[] args) {
4      int arr[] = {32,64,71,95,84,101};
5      int key =0;
6      boolean found = false;
7      for(int i=0;i <arr.length;i++){
8          if(arr[i] == key){
9              found = true;
10             System.out.println("the key is at the index : " + i);
11             break;
12         }
13     }
14     if(!found){
15         System.out.println(x:"not found");
16     }
17 }
18 }
19

PROBLEMS 7  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS D:\Cooperate problems> d:; cd 'd:\Cooperate problems'; & 'C:\Program Files\Java\jdk-19\bin\java.exe'
ers\91950\AppData\Roaming\Code\User\workspaceStorage\e69c3327493fe52c4cae45bdfcfd645\redhat.java\jdt_ws\G
not found
PS D:\Cooperate problems>
```

15.Count occurrences of an element

```
1 import java.util.Scanner;
2
3 public class elementoccurance {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6
7         System.out.print(s:"Enter number of elements: ");
8         int n = sc.nextInt();
9
10        int[] arr = new int[n];
11
12
13        System.out.println("Enter " + n + " elements:");
14        for (int i = 0; i < n; i++) {
15            |   arr[i] = sc.nextInt();
16        }
17
18        System.out.print(s:"Enter the element to count: ");
19        int target = sc.nextInt();
20
21
22        int count = 0;
23        for (int i = 0; i < n; i++) {
24            |   if (arr[i] == target) {
25                |       count++;
26            }
27        }
28
29        System.out.println("The element " + target + " occurs " + count + " time(s).");
30
31        sc.close();
32    }
33 }
34
```

PROBLEMS 9

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

er\workspaceStorage\e69c3327493fe52c4cae45bdffcf645\redhat.jav

Enter number of elements: 4

Enter 4 elements:

1

2

2

6

Enter the element to count: 2

Enter number of elements: 4

Enter 4 elements:

1

2

2

6

Enter the element to count: 2

1

2

2

6

Enter the element to count: 2

2

6

Enter the element to count: 2

6

Enter the element to count: 2

The element 2 occurs 2 time(s).



Search

