Lab Programs :

1. Program to demonstrate · string constructors.

Ans.
```
class StringConstructors {
    public static void main (String args[]) {
        String s1 = "hello";
        System.out.println (s1);
        & char chars1[] = { 'a', 'b', 'c', 'd' };
        Str
```

Output:

```
Hello
abc
Hello
Hell
```

2. Program to demonstrate string length, string literal and string concat.

Ans   Output:

```
5
Hello, Nikhilesh !
Hello Nikhilesh
```

3. Program to demonstrate toString ().

Ans.   Output:

```
Dimensions are 10.0 by 14.0 by 12.0
box b : Dimensions are 10.0 by 14.0 by 12.0
```

4. Program to extract a substring using getchars ()

Ans: Output:

Extracted substring : Bmsce

5. Program to demonstrate getbytes () and tochar Array ()

Ans: Output:

Byte Array : 72 101 108 108 111 114 108 100 33
Char Array : J a v a P r o g r a m m i n g

6. Program to demonstrate equals.

Ans: Output:

Bmsce   equals   Bmsce   → true
Bmsce   equals   College → false
Bmsce   equals   BMSCE   → false
Bmsce   equalsIgnoreCase BMSCE → true.

7. Program to find substring using regionmatches ().

Ans: Output:

Substring is matched
Substring is not matched.

8. Program to demonstrate startwith ()

Ans: Output:

Starts with 'Hello' : true
Starts with 'hi' : false.

9. Program to demonstrate endswith ().

Ans. Output :

Ends with "World' : true
Ends with 'Java' : false

10. Program to demonstrate equals () versus ==.

Ans. Hello equals Hello → true
Hello == Hello → false

11. Program to perform sorting, using compareto ().
     of alphabets

Ans. Sorted alphabets :
apple , ball , cat , dog , ent , free , gun, hen,
ice , jug , kite , lift, man , net, orange, parrot,
queen , ring , star , tree, ~~and~~ umbrella, van, watch,
xmas, yatch, zee .

12. Program to sort 7 numbers from 10 to 1 using
    compareto () .   17/01/2024
                     Verified: 1 10 2 3 4 5 6 7 8 9
Ans. Output :   Output
                              1 10 2
  ×   1 2 3 4 5 6 7 8 9 10

13. Program to demonstrate usage of substring (),
    indexof () , + for replacing "was" to "is" in
    "Thwas was a test. Thwas was, too."

Ans: <u>Output:</u>

Modified String: This is a test. This is too.

14. Java program to demonstrate concat ().

Ans. <u>Output:</u>

helloworld

15. Program to demonstrate replace ()

Ans: <u>Output:</u>

Modified string: Welcome to BMSCE commege.

16. Program to demonstrate trim ()

Ans: <u>Output:</u>

Trimmed String: [Hello Friends]

17. Enter the details for student 1:
Registration number: 10
Full name: Navya Billalar
Semester: 3
CGPA: 8.9
Enter details for student 2:
Registration number: 102
Full name: Nikita. B
Semester: 3
CGPA: 8.8
Enter details for student 3:

appending

16/1/24

Registration number : 103
Full name : Nikhilesh
Semester : 3
CGPA : 9.3

18. Program to demonstrate string buffer functions.

Ans. Output :

After setlength (5) : Hello
Character at index 1 : e

After setcharat (7, 'M') : Hello, Morld !

Extracted characters : Hello

After append (" , World!"): Hello, World !

After insert (5, ", World! "): Hello, World !

After reverse : ! dlroW , olleH

After delete (7, 12) : Hello !

After deleteCharAt (5) : Hello World !

After replace (7, 12, "universe"): Hello, universe

Extracted substring (7, 12) : Universe

19. Program to create an abstract class bird...

Ans. Output :

Eagle : Eagle flies high in the sky
Eagle screeches loudly

Hawk : Hawk soars gracefully through the air,
Hawk emits piercing

20. Program to create an abstract class shape.

Ans: Output :

        Circle — Area : 78.5398,
                   Perimeter : 31.415
        Triangle — Area : 6.0
                     Perimeter : 12.0

17.   Continuation of Output :

       Enter details for student 4 :
       Registration Number : 104
       Full Name : Ankit
       Semester : 3
       CGPA : 8.5
       Enter details for student 5 :
       Registration number : 105
       Full Name : Ben
       Semester : 3
       CGPA : 8.6

       Student records :

       Registration number : 10
       Full Name : Navya Billalar
       Semester : 3

18. Program to demonstrate Setlength (), Charat (), setcharat(), getchars (), append (), Insert (), reverse (), delete (), deletecharat(), Replace (), substring ().

Ans. Output:

CGPA: 8.9
-:- — — — — — — — — — —
Registration number: 102
:

— — — — — — — — — —

Student records (sorted by CGPA):

Registration Number: 103
Full Name: Nikhilesh
:

Registration Number: 10
:

Registration Number: 102
:

Registration Number: 105
:

Registration Number: 104
:

— — — — — — — — — —

Student Records (Sorted by Name):

Registration Number: 104
Full Name: Ankit
:
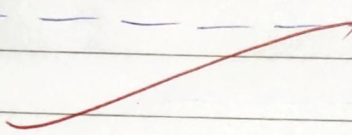
Full Name: Ben
:

Full name : Navya Billalar

Full name : Nikhilesh

Full name : Nikita

- - - - - - - -

22/11/2024