

# Parikshak - User Manual

## 1. Home Screen

**CDAC** प्रगत संगणन विकास केंद्र  
CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING

Organization Registration SIGNUP ? PARIKSHAK LET'S SOLVE IT

### Login to Parikshak

Username: \*

Password: \*

Evaluate this arithmetic expression and place the value below: \*

$9 + 0 =$

Login [Forgot Password ?](#)

“ That is the thing about people who think they hate computers. What they really hate is lousy programmers. - Larry Niven ”

**P**arikshak is an Automated Program Grading & Analysis Tool. It allows teachers to conduct programming exams in online mode, auto-evaluates of student programming assignments, gives intuitive feedback to student, and does qualitative analysis of student programs after programming test. This can significantly reduce the load of the faculty, thereby leading to efficient handling of programming assignments/exams.

**Salient Features:**

- Online GUI for Administrator, Teacher and Student
- Supports six programming languages (compiled, interpreted, scripting languages) & assembly programming
- Supports three different problem types:
  - Write the program
  - Fill in the missing snippet
  - Debug given program
- Provides instant and intuitive feedback to students during and after the test
- Plagiarism detection of students' submission
- Question Banking facility
- Result Analysis
- Single IDE for programming in different language
- Live monitoring of exams & assignment
- Logging of all student activities including the program code in various stages

**Possible Uses:**  
Teachers can use Parikshak for conducting programming assignments, exams and competition. They can also use this for students' program analysis and plagiarism detection. Students can use this tool for practice and program testing. Software companies can use this tool to test programming proficiency in their recruitment tests.

**Target users:**

- Colleges, Schools, institutions and organizations
- Teachers, Students, Programmers
- IT Companies

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Login with the valid username and password provided to you.

## 2. Welcome Screen: After successful login, “Welcome screen” will be shown.

**CDAC** प्रगत संगणन विकास केंद्र  
CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING

Welcome sebestudent

HOME | EXAM | ASSIGNMENT | PRACTICE | RESULT | PROFILE PARIKSHAK LET'S SOLVE IT

**P**arikshak program grading is purely input/output based, the faculty reserves the right to manually examine the submitted code against malpractices, reported errors and adherence to problem specifications. When there is adequate ground, the faculty may override Parikshak's verdict by granting/denying credit.

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3. Enter Exam: To appear in the exam, click the “Exam” tab. All available exams assigned to you will get listed here.

The screenshot shows the CDAC Parikshak website interface. At the top, there is a header with the CDAC logo and the text 'प्रगत संगणन विकास केंद्र CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING'. A navigation bar includes links for HOME, EXAM, ASSIGNMENT, PRACTICE, RESULT, and PROFILE. Below this, a table titled 'Available Exam' lists the following details:

Test Name	Start Date	End Date	Duration	No of Problems	Attempt Limit	Extra Attempt	Your Attempt
SEBI Demo	23 Aug 2022 (11:52)	24 Aug 2022 (20:30)	01:00 (hh:mm)	3	1	0	0

Below the table, there is a footer section with contact information for the Parikshak Team, including an email address and social media links for Facebook and Twitter. The footer also includes a copyright notice for 2017 C-DAC, Mumbai, and a 'Last updated' timestamp of 19-Jun-2022 13:58.

Click on the exam which you want to appear in. For eg. “SEBI Demo”., this contains 3 problems, and it has only 1 attempt.

4. Read instructions : After clicking on the exam you want to appear at, the system will show you the instructions message related to the exam. Read the instructions carefully and click on the “Yes” button if you want to proceed and take the exam.

Once you proceed for the exam, your attempt is counted.

The screenshot shows the same CDAC Parikshak website interface as above, but with an 'Instruction' dialog box overlaid. The dialog box contains the following text:

**Name:** SEBI Demo  
**Description:** SEBI Demo

- If you click 'Yes' your attempt will be counted and a new Test window will open
- Please DON'T press F5 key or refresh your browser on the test window
- Only when you are done with the test click 'Close Button' to close the test
- Before proceeding, please clear the browser cache

At the bottom of the dialog box, there is a question: 'Do you want to take the test?' followed by 'Yes' and 'Cancel' buttons.

5. Read Problem Statement: After clicking on “**Yes**”, the exam will get started and the timing counter will also get started. The system will show the time left for the exam.

During this time (eg: 30 min) candidates can only read the problem statements, input / output specifications and sample input/output of the selected problem.

The screenshot shows the CDAC Parikshak exam interface. At the top left, the CDAC logo is displayed with the text 'सी डैक' and 'प्रगत संगणन विकास केंद्र'. Below this, it says 'CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING'. On the top right, it says 'Welcome sebstudent'. In the center, there is a 'Time Left' counter showing '00:59:49'. To the right of the counter, there is a 'PARIKSHAK LET'S SOLVE IT' logo. Below the counter, there is a 'Select Problem' dropdown menu, a 'Last attempt code' field, and a 'Recover Code' button. At the bottom right, there is a 'SEBI Demo' label. In the middle of the screen, there is a 'Reading Time' section with a large empty box for the problem statement. Below the 'Reading Time' section, there is a 'Close Test' button. At the bottom left, there is a footer with 'Parikshak Team', 'parikshak@cdac.in', and 'Copyright © 2013 C-DAC, Mumbai. All rights reserved'. At the bottom right, there is a footer with 'Last updated:19-Jun-2022 13:58'.

After the reading time is over, candidates will get the screen where they can write the solutions of the problem by following the below steps

- a. Select the problem from the given dropdown list – ‘**Select Problem**’

The screenshot shows the SEBI Demo interface. At the top left is the CDAC logo and name. The header includes 'प्रगत संगणन विकास केंद्र' and 'CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING'. A timer shows 'Time Left: 00:54:16'. The user is logged in as 'Welcome sebstudent'. A dropdown menu for 'Select Problem' is open, showing options like 'Assignment: 5 (Game of Life)', 'Snake and Ladder', and 'Assignment 9: Bracket Matching'. Below the dropdown are buttons for 'Specification', 'Output Specification', and 'Sample I/O'. A code editor is visible with a 'Toggle editor' checkbox checked. To the right, there is a section for 'Provide your own test cases' with an 'Input' field and a 'Toggle editor' checkbox. At the bottom, there are buttons for 'Compile', 'Self Assessment', and 'Submit to Grader'.

- b. Enter the “**Filename**” with extension

- c. Select the programming language from the given dropdown list – ‘**Select Language**’.

Candidates can view the problem statement, input/output specification, sample input/out. Users can also view/recover the last submitted code (which was submitted to the grader on an earlier attempt).

6. Problem Statement : In the problem statement tab or Image tab, the user will get the detailed statement of the selected problem.

The screenshot shows the Parikshak online test form interface. At the top, there is a header with the CDAC logo and the text 'प्रगत संगणन विकास केंद्र CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING'. A 'Time Left' timer shows '00:59:07'. The assignment is '5 (Game of Life)'. The 'Problem Statement' tab is selected, displaying the following text:

**Game of Life**

The game of life is a game which is played on a field of cells. Each cell has eight n i.e. adjacent cells. Each cell in the field is either occupied by an organism or is blank. Given that a cell is occupied by an organism, this organism could have eight neighbors. The objective of the game is to simulate the life of the organisms present in generation after generation. The only work of the organism is to either reproduce or die. The rules of reproduction are given as follows:

1. If an organism has 0 or 1 neighbours, it will die out of loneliness in the next generation.
2. If an organism has 4 or more neighbours, it will die of crowding in the next generation.
3. If an organism has 2 or 3 neighbours, it will prosper and survive into the next generation.
4. If an unoccupied cell has exactly three neighbours, then an organism takes its place in the next generation.

On the right side, there is a 'Provide your own test cases:' section with an 'Input' field containing '1' and an 'Output' field.

7. The user can see input/output specification (format in which program should accept input and the format in which output of the program is expected) and sample input/output of the problem.

### [Input Specification]

The screenshot shows the Parikshak online test form interface with the 'Input Specification' tab selected. The 'Input Specification' section contains the following text:

- The first line of input will be two integers, R and C, separated by a space, specifying the number of rows and columns that the field has. Assume that the maximum number of rows and columns will never be greater than 30.
- The next R lines of input contain C characters, consisting of '#' and '@' respectively. '#' means a blank cell, while '@' indicates an organism.
- The last line of input contains one integer N, which is the number of generations that are supposed to be simulated.

Below the input specification, there is a 'Select Language' dropdown and a 'Filename:' input field. On the right side, there is a 'Provide your own test cases:' section with an 'Input' field containing '1' and an 'Output' field.

## [Output Specification]

The screenshot shows the CDAC SEBI Demo interface. At the top, the CDAC logo and name are displayed, along with the text "प्रगत संगणन विकास केंद्र" and "CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING". A "Welcome sebestudent" message is in the top right. A "Time Left: 00:58:55" timer is visible. Below the timer, there are buttons for "Assignment: 5 (Game of Life)", "Last attempt code", and "Recover Code". The "Output Specification" tab is selected, showing the text: "The output of your program should be a single integer indicating the number of living organisms at the end of simulation, i.e., after N generations." There are also "Select Language" and "Filename:" fields. On the right, the "Provide your own test cases:" section shows a code editor with "Input" and "1" entered.

## [Sample Input/output]

This screenshot shows the same CDAC SEBI Demo interface, but with the "Sample I/O" tab selected. The "Sample I/O" section displays two examples of input and output. The first example shows "Input: 3 3" followed by three lines of symbols: "#@#", "@##", and "@##", with "Output: 3". The second example shows "Input: 3 3" followed by the same three lines of symbols, but with "Output: 4". The "Provide your own test cases:" section on the right is also visible, showing the code editor with "Input" and "1" entered, and a "Toggle editor" checkbox checked.





8. Select the language, write the file name and start coding. To compile the code, click on “**Compile**”. The user can test / check their program by giving their own input and clicking on “**Self assessment**”.

The screenshot shows a web-based programming environment. At the top, there is a header with the logo of 'सी डैक CDAC' and the text 'प्रगत संगणन विकास केंद्र CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING'. A timer indicates 'Time Left: 00:53:14'. The main content area has several tabs: 'Problem Statement', 'Input Specification', 'Output Specification', and 'Sample I/O'. The 'Problem Statement' tab is selected, displaying the instruction: 'You have to write a C program to add two numbers'. Below this, there is a code editor with a C program for adding two numbers. To the right of the code editor, there is a section for 'Provide your own test cases:' with an 'Input' field containing '1 3 6' and an 'Output' field showing 'Enter two numbers: Sum: 9'. At the bottom of the interface, there are three buttons: 'Compile', 'Self Assessment', and 'Submit to Grader'.

9. Once you have completed the code and checked with your test cases and want to submit your code to the grader, then click on “**Submit to Grader**”. The grader will test your code check for different test cases (hidden test cases) and will show the result in the form of “Y” or “X” against each test case; where “Y” means the program has passed the test case and “X” means the program has failed for the test case.

Please note that the input (grader’s test cases) to the program should be as per the given input specification and the output of the program should be exactly in the format given in the output specification.


**प्रगत संगणन विकास केंद्र**  
**CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING**
Welcome student

Time Left: **00:49:55** 
 LETS SOLVE IT

|  | 
**Demo exam/test for students**

|  |  |

C (4.8.3) | Filename: test.c

```

1 #include<stdio.h>
2 int main()
3 {
4     int a, b, sum;
5     printf("Enter two numbers: ");
6     scanf("%d %d", &a, &b);
7     sum = a + b;
8     printf("Sum: %d", sum);
9     return 0;
10 }
11
  
```

Ln: 4, Ch: 1 | Total Ln: 11

Toggle editor

|  |

**Provide your own test cases:**  
 New Tab | --Font size-- | Word Wrap | Shortcut  
 Input X  
 1 3 6  
 Ln: 0, Ch: 3 | Total Ln: 1  
 Toggle editor

**Output:**  
 Execution Time : 0.00 Second  
 Execution Space : 4 Kbyte  
 -----  
 Y. Y. Y. Y. Y.  
 -- Accepted --

If your program has failed the test cases then you can modify your code and submit it to the grader again. This step can be repeated any number of times within the time limit of the exam.

Once you have completed the code for all the problems listed in the exam or if you want to exit the test; you can do so by clicking on the **"Close Test"** button. Please note that once the exam is closed, the test cannot be attempted again if the number of attempts is exhausted.

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