

**Programming Fundamentals**

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| Lab 10 | |
| **Topic** | File Handling and Functions |
| **Objective** | * Practice on reading and writing into files * Reading and writing using user defined functions * Functions with arrays |

**SECTION-A**

**Question No: 01**

Write a program that reads 5 integer numbers from a file **“integer.txt”,** and store sum and average in **“result.txt”.**

**Sampe Output**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | **integer.txt** |  | **Result.txt** | | 2 1 3 7 4 | Sum is 17  Average is 3.4 | |

**Question No: 02**

Write a C++ program that read only (digits) from a text file “**Read.txt**” and count the digits in **“read.txt”.**

**Sampe Output**

|  |  |
| --- | --- |
| **read.txt**   |  | | --- | | Hello123 |   **Output on console** 123 Total digits are: 3 |

**Question No: 03**

Write a user-defined function in C++ to read the content from a text file **out.txt.** Count and display the number of alphabets on the console.

**Sampe Output**

|  |  |
| --- | --- |
| **Out.txt**   |  | | --- | | All universities in pakistan are closed now a days due to a dangerous disease. |   **Total Characters in File:**  78 |

**Question No: 04**

Write a program in which, you read a file **“sentence.txt”** into a character array. Now separate each word and find its length and store the word and its length into a file **“word.txt”.**

**Sampe Output**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| |  |  |  | | --- | --- | --- | | **sentence.txt** |  | **word.txt** | | Good Morning Sir | Good 4  Morning 7  Sir 3 | |

**Question No: 05**

Write a program that simulates **coin tossing.** For each toss of the coin, the program should print **Heads or Tails.** Let the program toss the coin 100 times and count the number of times each side of the coin appears. Print the results. The program should call a separate function flip that takes no arguments and returns 0 for tails and 1 for heads.

Note: If the program realistically simulates the coin tossing, then each side of the coin should appear approximately half the time.

**Sampe Output**

|  |
| --- |
| **Turn 01:** Head  Turn 02: Head  Turn 03: Tail  Turn 04: Head  Turn 05: Tail  .  .  .  Turn 100: Head  **Total Head appread:** 48  **Total Tail appeared:** 52 |

**Question No: 06**

Write a C++ function (Name: generatePrime() ) which generates the prime numbers up to any number/value entered by the user and store these no. in an integer array. Now, return this array to main function and print all generated no. in that specific range.

**Sampe Output**

|  |
| --- |
| **Enter Value :** 50  **Prime No. from 0 to 50 are as following:**  2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47 |