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Assignment Set :1

Problem No. 4

Problem Statement :

Write a program to generate 1,00,000 random strings of capital letters of length 10 each, without repetitions and store them in a file in character mode one string per line.

Solution Approach:

We seed the random number generator function in C , rand() with time(0) using the function srand(time(0)) .We initialise a char array of size 26 with the alphabets A,B,C… . Now for each iteration of the loop we initialise and empty string say str and append random indexed alphabets using str=str+array[rand()%26] from 1 to 10 to generate a 10 letter string and then write the string to the file for each iteration.

Structured Pseudocode :

1.srand(time(0))

2.Open the file in write mode , store its address in File pointer ptr

3.if(ptr==NULL)

4. print “File can’t be opened”

5. Exit from the program

6.else

7. For i from 1 to 1,00,000:

8. char str[10]=” ”

9. For j from 1 to 10:

10. concatenate array[rand()%26] to str

11. write to the file

12.Close the file

Results:

In this problem we are generating random words consisting of only capital letters and storing it in the required file by opening the file pointer using the fopen(“filename”,”mode”) function in c and then storing the integer to the file by converting it to a string.

Discussions:

Here we will be writing directly to a file so that the data is not lost when the lifetime of the program is over .We are using the functions fopen(“filename”,”mode”) and fprintf(file pointer,”control specifier”,list of values) to open and write to the file .Even if the file doesn’t exist and we open it in the write mode a new file with “filename” will be created.

Separate files containing commented source code

The file has been attached.