**Assignment**

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**1)** Write a program to create and write to a text file.

**IPO:**

* Input: Text
* Process: Create a file and write text into it
* Output: File created with given text

**Coding:**

**#include <stdio.h>**

**Void main()**

**{**

**FILE \*fp;**

**char text[100];**

**fp = fopen("file1.txt", "w");**

**if (fp == NULL)**

**{**

**printf("Error opening file!\n");**

**return 1;**

**}**

**printf("Enter text to write: ");**

**fgets(text, sizeof(text), stdin);**

**fputs(text, fp);**

**fclose(fp);**

**printf("File created and text written successfully.\n");**

**}**

**Sample output:**

**Enter text to write: Hello World!**

**File created and text written successfully.**

**2)** Write a program to read contents of a file and display.

**IPO:**

* Input: File name
* Process: Read contents of file
* Output: Display file contents

**Coding:**

**#include <stdio.h>**

**int main()**

**{**

**FILE \*fp;**

**char ch;**

**fp = fopen("file1.txt", "r");**

**if (fp == NULL) {**

**printf("File not found!\n");**

**return 1;**

**}**

**while ((ch = fgetc(fp)) != EOF)**

**putchar(ch);**

**fclose(fp);**

**return 0;**

**}**

**Sample output:**

**Hello World!**

**3)** Write a program to count number of lines in a file.

**IPO:**

* Input: File name
* Process: Count newline characters
* Output: Number of lines

**Coding:**

**#include <stdio.h>**

**int main()**

**{**

**FILE \*fp;**

**char ch;**

**int lines = 0;**

**fp = fopen("file1.txt", "r");**

**if (fp == NULL) {**

**printf("File not found!\n");**

**return 1;**

**}**

**while ((ch = fgetc(fp)) != EOF)**

**if (ch == '\n') lines++;**

**fclose(fp);**

**printf("Number of lines: %d\n", lines + 1);**

**return 0;**

**}**

**Sample output:**

**Number of lines: 1**

**4)** Write a program to copy contents from one file to another.

**IPO:**

* Input: Source and destination file names
* Process: Read from source and write to destination
* Output: Copy complete message

**Coding:**

**#include <stdio.h>**

**int main()**

**{**

**FILE \*src, \*dest;**

**char ch;**

**src = fopen("file1.txt", "r");**

**dest = fopen("file2.txt", "w");**

**if (src == NULL || dest == NULL) {**

**printf("Error opening files!\n");**

**return 1;**

**}**

**while ((ch = fgetc(src)) != EOF)**

**fputc(ch, dest);**

**fclose(src);**

**fclose(dest);**

**printf("File copied successfully.\n");**

**return 0;**

**}**

**Sample output:**

**File copied successfully.**

**5)** Write a program to append text to a file.

**IPO:**

* Input: Text
* Process: Append to existing file
* Output: File updated

**Coding:**

**#include <stdio.h>**

**int main()**

**{**

**FILE \*fp;**

**char text[100];**

**fp = fopen("file1.txt", "a");**

**if (fp == NULL) {**

**printf("Error opening file!\n");**

**return 1;**

**}**

**printf("Enter text to append: ");**

**fgets(text, sizeof(text), stdin);**

**fputs(text, fp);**

**fclose(fp);**

**printf("Text appended successfully.\n");**

**return 0;**

**}**

**Sample output:**

**Enter text to append: Welcome to C programming.**

**Text appended successfully.**

**6)** Write a program to count vowels in a file.

**IPO:**

* Input: File name
* Process: Check each character if vowel
* Output: Number of vowels

**Coding:**

**#include <stdio.h>**

**#include <ctype.h>**

**int main()**

**{**

**FILE \*fp;**

**char ch;**

**int count = 0;**

**fp = fopen("file1.txt", "r");**

**if (fp == NULL)**

**{**

**printf("File not found!\n");**

**return 1;**

**}**

**while ((ch = fgetc(fp)) != EOF) {**

**ch = tolower(ch);**

**if (ch=='a'||ch=='e'||ch=='i'||ch=='o'||ch=='u')**

**count++;**

**}**

**fclose(fp);**

**printf("Number of vowels: %d\n", count);**

**return 0;**

**}**

**Sample output:**

**Number of vowels: 7**

**7)** Write a program to read integers from a file and find the sum.

**IPO:**

* Input: Integers in file
* Process: Read and add them
* Output: Sum of integers

**Coding:**

**#include <stdio.h>**

**int main()**

**{**

**FILE \*fp;**

**int num, sum = 0;**

**fp = fopen("numbers.txt", "r");**

**if (fp == NULL) {**

**printf("File not found!\n");**

**return 1;**

**}**

**while (fscanf(fp, "%d", &num) == 1)**

**sum += num;**

**fclose(fp);**

**printf("Sum = %d\n", sum);**

**return 0;**

**}**

**Sample output:**

**Sum = 45**

**8)** Write a program to read a structure from a file.

**IPO:**

* Input: Structure stored in file
* Process: Read binary data into structure
* Output: Display structure data

**Coding:**

**#include <stdio.h>**

**struct Student {**

**int roll;**

**char name[20];**

**float marks;**

**};**

**int main()**

**{**

**FILE \*fp;**

**struct Student s;**

**fp = fopen("student.dat", "rb");**

**if (fp == NULL) {**

**printf("File not found!\n");**

**return 1;**

**}**

**fread(&s, sizeof(s), 1, fp);**

**fclose(fp);**

**printf("Roll: %d\nName: %s\nMarks: %.2f\n", s.roll, s.name, s.marks);**

**return 0;**

**}**

**Sample output:**

**Roll: 1**

**Name: Arun**

**Marks: 85.50**

**9)** Write a program to sort names stored in a file.

**Ipo:**

* Input: Names in file
* Process: Read into array, sort, write back
* Output: Sorted names

**Coding:**

**#include <stdio.h>**

**#include <string.h>**

**int main() {**

**FILE \*fp;**

**char names[20][50], temp[50];**

**int n = 0, i, j;**

**fp = fopen("names.txt", "r");**

**if (fp == NULL) {**

**printf("File not found!\n");**

**return 1;**

**}**

**while (fgets(names[n], sizeof(names[n]), fp)) {**

**names[n][strcspn(names[n], "\n")] = '\0';**

**n++;**

**}**

**fclose(fp);**

**for (i = 0; i < n-1; i++)**

**for (j = i+1; j < n; j++)**

**if (strcmp(names[i], names[j]) > 0) {**

**strcpy(temp, names[i]);**

**strcpy(names[i], names[j]);**

**strcpy(names[j], temp);**

**}**

**fp = fopen("names.txt", "w");**

**for (i = 0; i < n; i++)**

**fprintf(fp, "%s\n", names[i]);**

**fclose(fp);**

**printf("Names sorted successfully.\n");**

**return 0;**

**}**

**Sample output:**

**Names sorted successfully.**

**10)** Write a program to search for a word in a file

**IPO:**

* Input: File name and word to search
* Process: Check each word in file
* Output: Found or not found

**Coding:**

**#include <stdio.h>**

**#include <string.h>**

**int main() {**

**FILE \*fp;**

**char word[50], temp[50];**

**int found = 0;**

**printf("Enter word to search: ");**

**scanf("%s", word);**

**fp = fopen("file1.txt", "r");**

**if (fp == NULL) {**

**printf("File not found!\n");**

**return 1;**

**}**

**while (fscanf(fp, "%s", temp) == 1) {**

**if (strcmp(temp, word) == 0) {**

**found = 1;**

**break;**

**}**

**}**

**fclose(fp);**

**if (found)**

**printf("Word found in file.\n");**

**else**

**printf("Word not found.\n");**

**return 0;**

**}**

**Sample output:**

**Enter word to search: Hello**

**Word found in file.**