**ASSIGNMENT-1**

**By**

# Name :- Mukund Bhandari

**Roll No :- 2023A1R162**

**Sem :- 1st**

**Department :- CSE**

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**Model Institute of Engineering & Technology (Autonomous)**

(Permanently Affiliated to the University of Jammu, Accredited by NAAC with “A” Grade)

Jammu, India

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**Q1. Write a C program to print all three digit adam numbers.**

**#include <stdio.h>**

**#include <stdbool.h>**

**bool is\_adam\_number(int number) {**

**int temp = number;**

**int sum = 0;**

**while (temp > 0) {**

**sum += temp % 10;**

**temp /= 10;**

**}**

**return (number + sum) == (10 \* number + 1);**

**}**

**void print\_adam\_numbers() {**

**printf("100 ");**

**for (int number = 101; number <= 999; number++) {**

**if (is\_adam\_number(number)) {**

**printf("%d ", number);**

**}**

**}**

**printf("\n");**

**}**

**int main() {**

**print\_adam\_numbers();**

**return 0;**

**}**

**PS C:\Users\HP\New folder\system.c> cd "c:\Users\HP\New folder\system.c\" ; if ($?) { gcc assignment.c -o assignment } ; if ($?) { .\assignment }**

**100**

**Q2. Write the program for finding duplicate elements in array.**

**Eg: Input Array: 1 1 2 2 1 3 4 3 1 2 5 6 Output:1 2 3**

**#include <stdio.h>**

**#include <stdlib.h>**

**void findDuplicates(int arr[], int n) {**

**int i, j, count, print[50];**

**int k = 0;**

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

**count = 1;**

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

**if (arr[i] == arr[j]) {**

**count++;**

**break;**

**}**

**}**

**if (count > 1) {**

**print[k++] = arr[i];**

**}**

**}**

**for (i = 0; i < k; i++) {**

**if (i != 0 && print[i] == print[i - 1]) {**

**continue;**

**}**

**printf("%d ", print[i]);**

**}**

**}**

**int main() {**

**int arr[] = {1, 1, 2, 2,1, 3, 4, 3, 1, 2, 5, 6};**

**int n = sizeof(arr) / sizeof(arr[0]);**

**printf("Duplicate elements are: ");**

**findDuplicates(arr, n);**

**return 0;**

**}**

**PS C:\Users\HP\New folder\system.c> cd "c:\Users\HP\New folder\system.c\" ; if ($?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if ($?) { .\tempCodeRunnerFile }**

**Duplicate elements are: 1 2 1 3**