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| **Ex.No.5** | **USAGE OF ARRAYS** | Reg.No: URK22CS1200 |
| **3/11/22** |

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| 3. Write a C program to implement linear search.  Aim  To Implement Linea search in c programming  **Algorithm:**  Step 1: Start the program.  Step 2: Declare the required arrays and variables  Step 3: read the inputted number of elements in the array  Step 4: execute suitable for loops and if statements  Step 5: Print the required output  Step 6; Stop the program  **PROGRAM**  #include <stdio.h>  int main()  {  int array[100], search, c, n;  printf("Enter number of elements in array\n");  scanf("%d", &n);  printf("Enter %d integer(s)\n", n);  for (c = 0; c < n; c++)  scanf("%d", &array[c]);  printf("Enter a number to search\n");  scanf("%d", &search);  for (c = 0; c < n; c++)  {  if (array[c] == search) /\* If required element is found \*/  {  printf("%d is present at location %d.\n", search, c+1);  break;  }  }  if (c == n)  printf("%d isn't present in the array.\n", search);  return 0;  }  Output  [urk22cs1200@code ~]$ ./a.out  Enter number of elements in array  4  Enter 4 integer(s)  1  2  3  4  Enter a number to search  6  6 isn't present in the array.  [urk22cs1200@code ~]$  Result  Implementing of C Programming in Linear is Executed.  4. Write a program in C to read n number of values in an array and display it in reverse order.  Aim  To write a program in c to read n number of values in an arry and display  It in reverse order  **Algorithm:**  Step 1: Start the program.  Step 2: Declare the required arrays and variables  Step 3: read the inputted number of elements in the array  Step 4: execute suitable for loops and if statements  Step 5: Print the required output  Step 6; Stop the program  Program  #include <stdio.h>  void main()  {  int i,n,a[100];  printf("\n\nRead n number of values in an array and display it in reverse order:\n");  printf("------------------------------------------------------------------------\n");  printf("Input the number of elements to store in the array :");  scanf("%d",&n);  printf("Input %d number of elements in the array :\n",n);  for(i=0;i<n;i++)  {  printf("element - %d : ",i);  scanf("%d",&a[i]);  }  printf("\nThe values store into the array are : \n");  for(i=0;i<n;i++)  {  printf("% 5d",a[i]);  }  printf("\n\nThe values store into the array in reverse are :\n");  for(i=n-1;i>=0;i--)  {  printf("% 5d",a[i]);  }  printf("\n\n");  }  Output  [urk22cs1200@code ~]$ ./a.out  Read n number of values in an array and display it in reverse order:  ------------------------------------------------------------------------  Input the number of elements to store in the array :3  Input 3 number of elements in the array :  element - 0 : 1  element - 1 : 2  element - 2 : 3  The values store into the array are :  1 2 3  The values store into the array in reverse are :  3 2 1  [urk22cs1200@code ~]$  Result  N number of values is Stored in the array and displaye in reverse order  5.Write a program to count the frequency of each element in an array  **Aim:**  To count the frequency of each element in an array  **Algorithm:**  Step 1: Start the program.  Step 2: Declare the required arrays and variables  Step 3: read the inputted number of elements in the array  Step 4: execute suitable for loops and if statements  Step 5: Print the required output  Step 6; Stop the program  **Program:**  #include <stdio.h>  void main()  {  int arr1[100], fr1[100];  int n, i, j, ctr;  printf("\n\nCount frequency of each element of an array:\n");  printf("------------------------------------------------\n");  printf("Input the number of elements to be stored in the array :");  scanf("%d",&n);  printf("Input %d elements in the array :\n",n);  for(i=0;i<n;i++)  {  printf("element - %d : ",i);  scanf("%d",&arr1[i]);  fr1[i] = -1;  }  for(i=0; i<n; i++)  {  ctr = 1;  for(j=i+1; j<n; j++)  {  if(arr1[i]==arr1[j])  {  ctr++;  fr1[j] = 0;  }  }  if(fr1[i]!=0)  {  fr1[i] = ctr;  }  }  printf("\nThe frequency of all elements of array : \n");  for(i=0; i<n; i++)  {  if(fr1[i]!=0)  {  printf("%d occurs %d times\n", arr1[i], fr1[i]);  }  }  }  **Output:**  [urk22cs1200@code ~]$ gcc ex5c.c  [urk22cs1200@code ~]$ ./a.out  Enter size of the array : 3  Enter elements in array : 3  1  2  no of 3 is 1  no of 1 is 1  no of 2 is 1  [urk22cs1200@code ~]$  **Result:**  This program is executed successfully and the frequency of each element in an array is counted. |