**Experiment - 1.1**

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**Branch:** AIML **Section/Group :** AIML-4B

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**Subject Name :** Advance Programming Lab **Subject Code:** 20CSV-334\_20AML-4

**1.Aim/Overview of the Practical**

Write a Program in C++ to find the Kth smallest/largest element in an array using template and C++ STL.

**2.Task to be done**

1. Take input from the user and store the element in an array.
2. Write a program to find the kth smallest element in the array.

**3. Program Code:**

#include<bits/stdc++.h>

using namespace std;

template<typename T>

T ksmallestelement(T arr[],int k)

{

set<T>s;

int size = sizeof(arr)/sizeof(arr[0]);

for(int i=0;i<size;i++)

{

s.insert(arr[i]);

}

auto it = s.begin();

for(int i=0;i<k;i++)

it++;

return \*it;

}

int main()

{

vector<float> f = {1.1,0.1,4.5,6.8};

vector<int> i = {1,2,3,3,4,2,1,1,1,-1};

float f1[] = {1.1,0.1,4.5,6.8};

int i1[] = {1,2,3,3,4,2,1,1,1,-1};

int arr[] = {11,1,1,1,1,232,2,2,2,1,1,2,32,1,2,3,1,1231,1,2,3,1,2,41,3,3,2,12,3,2,1,23,2,32};

//

cout<<"The Kth Smallest Element : "<<ksmallestelement(arr,2)<<endl;

return 0;

}

**4. Output:**

**5. Observation / Discussion**

* Template is a blue print of a class or a function which takes data type as the parameter.
* The main idea of using a template is to make a data-type independent program.
* Templates are expanded at compiler time. Template is similar to macros.

**6. Result:**

**7.** **Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):**

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| Sr No. | Parameters | Marks Obtained | Maximum Marks |
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