**Assignment No:-**

**Assignment Name:- Implementation of program for creating heap using ADJUST/HEAPIFY.**

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**Roll No:- 136.**

#include <iostream.h>

#include <conio.h>

//HEAPIFY\_MAX

class HEAPIFY\_MAX

{

private:

int\*A,n;

public:

HEAPIFY\_MAX(int size);

void READ();

void ADJUST(int node, int n);

void HEAPIFY();

void DISPLAY();

};

HEAPIFY\_MAX :: HEAPIFY\_MAX(int size)

{

n = size;

A= new int[n+1];

}

void HEAPIFY\_MAX :: READ()

{

for(int i=1; i<=n; i++)

{

cin>>A[i];

}

}

void HEAPIFY\_MAX :: ADJUST(int node, int n)

{

int j, item;

j = 2\*node;

item = A[node];

while(j<=n)

{

if(j < n && A[j] < A[j+1])

{

j = j + 1;

}

if(item>A[j])

break;

else

{

A[j/2] = A[j];

j = 2\*j;

}

}

A[j/2] = item;

}

void HEAPIFY\_MAX :: HEAPIFY()

{

for(int i= n/2; i>=1; i--)

{

ADJUST(i,n);

}

}

void HEAPIFY\_MAX :: DISPLAY()

{

for(int i=1; i<=n; i++)

{

cout<<A[i]<<" ";

}

}

void main()

{

clrscr();

int size;

cout<<"Enter the size of list: ";

cin>>size;

HEAPIFY\_MAX heap(size);

heap.READ();

cout<<"\nYou Entered Elements are: ";

heap.DISPLAY();

heap.HEAPIFY();

cout<<"\nElements after Creating MAX\_HEAP: ";

heap.DISPLAY();

getch();

}