priorityqueue\_07.cpp

**Compile:** g++ priorityqueue\_07.cpp -o priorityqueue\_07

**Run:** ./priorityqueue\_07

**Program:**

#include <iostream>

#include <cstdio>

#include <cstring>

#include <cstdlib>

using namespace std;

struct node

{

int priority;

int info;

struct node \*link;

};

classPriority\_Queue

{

private:

node \*front;

public:

Priority\_Queue()

{

front = NULL;

}

void insert(int item, int priority)

{

node \*tmp, \*q;

tmp = new node;

tmp->info = item;

tmp->priority = priority;

if (front == NULL || priority < front->priority)

{

tmp->link = front;

front = tmp;

}

else

{

q = front;

while (q->link != NULL && q->link->priority <= priority)

q=q->link;

tmp->link = q->link;

q->link = tmp;

}

}

void del()

{

node \*tmp;

if(front == NULL)

cout<<"Queue Underflow\n";

else

{

tmp = front;

cout<<"Deleted item is: "<<tmp->info<<endl;

front = front->link;

free(tmp);

}

}

void display()

{

node \*ptr;

ptr = front;

if (front == NULL)

cout<<"Queue is empty\n";

else

{ cout<<"Queue is :\n";

cout<<"Priority Item\n";

while(ptr != NULL)

{

cout<<ptr->priority<<" "<<ptr->info<<endl;

ptr = ptr->link;

}

}

}

};

int main()

{

int choice, item, priority;

Priority\_Queuepq;

do

{

cout<<"1.Insert\n";

cout<<"2.Delete\n";

cout<<"3.Display\n";

cout<<"4.Quit\n";

cout<<"Enter your choice : ";

cin>>choice;

switch(choice)

{

case 1:

cout<<"Input the item value to be added in the queue : ";

cin>>item;

cout<<"Enter its priority : ";

cin>>priority;

pq.insert(item, priority);

break;

case 2:

pq.del();

break;

case 3:

pq.display();

break;

case 4:

break;

default :

cout<<"Wrong choice\n";

}

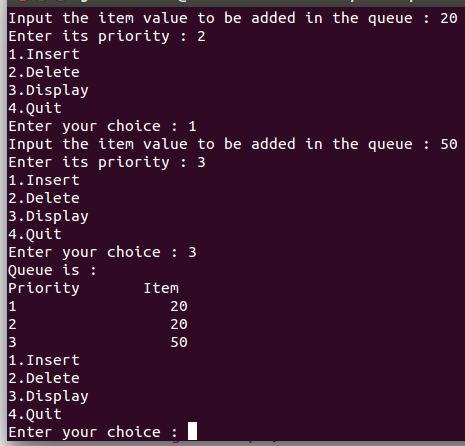
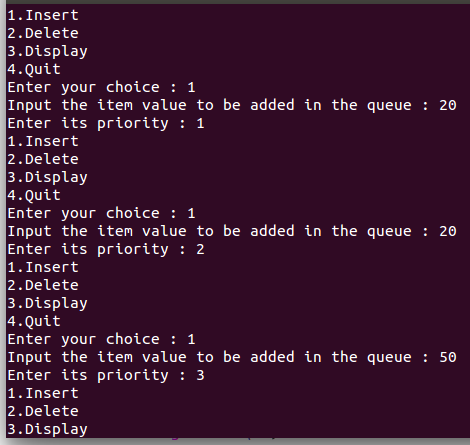
}

while(choice != 4);

return 0;

}

**Output:**

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