

```
#include <stdio.h>
```

```
#include <conio.h>
```

```
#define q_size 5
```

```
int r=-1,f=0,item,count=0;
```

```
int q[10],ch;
```

```
void insert_rear()
```

```
{
```

```
if (r==q_size-1)
```

```
{
```

```
printf("Queue overflow\n");
```

```
return;
```

```
}
```

```
r=r+1;
```

```
q[r]=item;
```

```
count++;
```

```
}
```

```
void
```

```
insertion_sort()
```

```
{
```

```
int i,j,key;
```

```
for (i=1;i {
```

```
key=q[i];
```

```
j=i-1;
```

```
while (j>=0 && q[j] {
```

```
q[j+1]=q[j];
```

```
j=j-1;
```

```
}
```

```
q[j+1]=key;
```

```
}
```

```
}
```

```
void delete_rear()
```

```
{
```

```
if (f>r)
```

```
{
```

```
f=0;
```

```
r=-1;
```

```
printf("Queue is empty\n");
```

```
return;
```

```
}
```

```
printf("Item deleted=%d\n",q[r--]);
```

```
}
```

```
void display()
```

```
{
```

```
if (f>r)
```

```
{
```

```
printf("Queue is empty\n");
```

```
return;
```

```
}
```

```
printf("Contents of the queue are:\n");
```

```
for(int i=f;i<=r;i++)
```

```
{
```

```
printf("%d\n",q[i]);
```

```
}
```

```
}
```

```
int main()
```

```
{
```

```
for (;;) 
```

```
{
```

```
printf("\n1:insert_rear\n2:delete_rear\n3:display\n");
```

```
printf("Enter the choice:\n");
```

```
scanf("%d",&ch);
```

```
switch (ch){
```

```
case 1:printf("Enter the item:\n");
```

```
scanf("%d",&item);
```

```
insert_rear();
```

```
insertion_sort();
```

```
break;
```

```
case 2:delete_rear();
```

```
break;
```

```
case 3:display();
```

```
break;
```

```
default:exit(0);
```

```
}
```

```
}
```

```
return 0;
```

```
}
```