```
#include<iostream>
using namespace std;
const int MAX=20;
class Student
{
float perc[MAX];
int n;
public:
void accept();
void display();
void insertionSort();
void shellSort();
void displayTop5();
int getn()
{
return n;
}
};
void Student::accept()
{
cout<<"\nEnter Number of Students: ";
cin>>n;
cout<<"\nENter percentages of "<<n<<" students: ";
for(int i=0;i<n;i++)
{
cin>>perc[i];
}
}
void Student::display()
{
cout<<"\nStudent List:\n";
for(int i=0;i<n;i++)
{
cout<<perc[i]<<" ";
}
}
void Student::displayTop5()
{
int c;
for(int i=n-1,c=0;i>=0 && c<5; i--,c++)
{
cout<<c+1<<" )"<<perc[i]<<"\n";
}
}
//Time : 12:13AM 23/10/2016 Done Execution Successfullt.<v>
void Student::insertionSort()
{
int i,j;
for(int i=1;i<n;i++)
{
float temp=perc[i];
for(j=i-1;j>=0 && perc[j]>temp;j--)
```

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{
perc[j+1]=perc[j];
}
perc[j+1]=temp;
}
cout<<"\nSorted List is: ";
display();
}
void Student::shellSort()
{
int i,j,k;
float temp;
for(int i=n/2;i>0;i=i/2)
{
for(j=i;j<n;j++)
{
temp=perc[j];
for(k=j-1;k>=0 && perc[k]>temp;k--)
{
perc[k+1]=perc[k];
}
perc[k+1]=temp;
}
}
cout<<"\nSorted List is: ";
display();
}
int main()
{
Student s;
int choice,num;
do
{
cout<<"\n******* MENU ******\n";
cout<<"\n1.Insertion Sort";
cout<<"\n2.Shell Sort";
cout<<"\n3.Display Top 5";
cout<<"\n4.Exit";
cout<<"\nEnter Choice: ";
cin>>choice;
switch(choice)
{
case 1:
s.accept();
cout<<"\nBefore Sorting: ";
s.display();
cout<<"\nAfter Sorting: ";
s.insertionSort();
break;
case 2:
s.accept();
```

```
cout<<"\nBefore Sorting: ";
s.display();

cout<<"\nAfter Sorting: ";
s.shellSort();
break;
case 3: cout<<"\n5 Toppers Are:\n";
s.displayTop5();
break;
}
}while(choice!=4);
return 0;
}
```