

```
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//LAB02pt3
//measure the exec time of insertion sort
```

```
#include <iostream>
#include <vector>
#include <cstdlib>
```

```
void insertion(std::vector<int>& v)
{
```

```
    int i, j, tmp;
```

```
    for (i=1; i<v.size(); i++)
    {
```

```
        j=i;
```

```
        tmp=v[i];
```

```
        while (j>0 && tmp<v[j-1])
```

```
        {
```

```
            v[j]=v[j-1];
```

```
            j--;
```

```
        }
```

```
        v[j]=tmp;
```

```
    }
```

```
}
```

```
int main()
```

```
{
```

```
    int n;
```

```
    std::cin>>n;
```

```
    std::vector<int> temp;
```

```
    for(int i = 0; i < n; i++)
```

```
        temp.push_back(rand()%1000000);
```

```
    insertion(temp);
```

```
}
```