

Name: Samit Dubey

Roll no.: 22 Div: A

Batch: A1

Program:

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

```
void main() {
```

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

```
    printf("Enter the number of elements: ");
```

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

```
    int a[n];
```

```
    printf("\nEnter the elements: ");
```

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

```
        scanf("%d", &a[i]);
```

```
}
```

```
for (j = 1; j < n; j++) {
```

```
    key = a[j];
```

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

```
    while (i >= 0 && a[i] > key) {
```

```
        a[i + 1] = a[i];
```

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

```
    }
```

```
    a[i + 1] = key;
```

```
}
```

```
printf("\nThe sorted array is: ");
```

```
for (j = 0; j < n; j++) {
```

```
    printf("%d ", a[j]);
```

```
}
```

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

```
}
```

Output:

Enter the number of elements: 5

Enter the elements: 8 5 6 4 2

The sorted array is: 2 4 5 6 8