Time complexity Analysis of Selection sort

Worst case : if the array is reversed ordered the inner while loop will execute (n-1) time when I=1 , (n-2) times when I=2 ……., 1 times when I=n-1.

```
void selectionSort(int arr[], int n)          cost              time
{
   int i, j, min_idx;


   for (i = 0; i < n-1; i++)
   {

      min_idx = i;                            c1                n-1
      for (j = i+1; j < n; j++)
      if (arr[j] < arr[min_idx])              c2                (n-1)+(n-2)+..+1
         min_idx = j;
      swap(&arr[min_idx], &arr[i]);
   }
}
```

T(n) = c1(n-1)+c2 . n(n-1)/2 +

=an^2+bn+c = O(n^2)