19CS10039

Worksheet 6 Kaushal Ranthlia

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Start with the lowest s_i and complete that and then go on to the next.

We have an array s[n] and an array p[n]

Since all values of s[n] are integers, we can use Radix sort, and also sort p[n] accordingly (for s[n])
↳ in ascending order,

~~Then, for (int i=0; i<n; i++)~~
~~{~~

```
int current_time = 0;   int C_sum = 0;
for (int i=0; i<n; i++)
{
    if (current_time >= s[i])
    {
        current_time += p[i];
        C_sum += current_time;   printf("Refrigerator with starting time %d", s[i]);
    }
    else
    {
        current_time = s[i];
        current_time += p[i]
        C_sum += current_time;
        printf("Refrigerator with starting time %d", s[i]);
    }
}
```

This C_sum is the minimum.

Radix sort takes O(kn) and the loop runs for O(n)
where $k \geq 1$

∴ Time complexity is O(k.n).