4. Construct a scheduling program with C that selects the waiting process with the smallest execution time to execute next.

.smallest.cpp

```c
#include <stdio.h>
int main()
{
int A[100][4];
int i, j, n, total = 0, index, temp; float avg_wt, avg_tat;
printf("Enter number of process: "); scanf("%d", &n);
printf("Enter Burst Time:\n");
 for (i = 0; i < n; i++) {
printf("P%d: ", i + 1); scanf("%d", &A[i][1]); A[i][0] = i + 1;
}
for (i = 0; i < n; i++) {
index = i;
for (j = i + 1; j < n; j++)
if (A[j][1] < A[index][1]) index = j;
temp = A[i][1]; A[i][1] = A[index][1]; A[index][1] = temp;
temp = A[i][0];
A[i][0] = A[index][0]; A[index][0] = temp;
}
A[0][2] = 0;
for (i = 1; i < n; i++) {
A[i][2] = 0;
for (j = 0; j < i; j++)
A[i][2] += A[j][1];
total += A[i][2];
}
avg_wt = (float)total / n; total = 0;
printf("P BT WT TAT\n"); for (i = 0; i < n; i++) {
A[i][3] = A[i][1] + A[i][2];
total += A[i][3];
printf("P%d %d %d %d\n", A[i][0], A[i][1], A[i][2], A[i][3]);
}
avg_tat = (float)total / n;
printf("Average Waiting Time= %f", avg_wt); printf("\nAverage Turnaround Time= %f", avg_tat);
}
```

```
Enter number of process: 3
Enter Burst Time:
P1: 4
P2: 3
P3: 2
P BT WT TAT
P3 2 0 2
P2 3 2 5
P1 4 5 9
Average Waiting Time= 2.333333
Average Turnaround Time= 5.333333
--------------------------------
Process exited after 10.14 seconds with return value 0
Press any key to continue . . .
```