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lt24103483@MLBVDI-LNN-023: ~/Desktop
lt24103483@MLBVDI-LNN-023: $ cd Desktop
lt24103483@MLBVDI-LNN-023: ~/Desktop$ vim jet.c
lt24103483@MLBVDI-LNN-023: ~/Desktop$ gcc jet.c -o jet.o
lt24103483@MLBVDI-LNN-023: ~/Desktop$ ./jet.o
takeoff speed of jet km/hr:278
distance over which the catapult accelerate the jet:94
predicted acceleration 31.72 (m/s^2)
predicted time inf seconds
lt24103483@MLBVDI-LNN-023: ~/Desktop$
```

```
1 #include <stdio.h>
2 #include <math.h>
3 int main() {
4     double takeoff_speed_kmph, takeoff_speed_mps, distance; /* input */
5     double acceleration, time; /* output */
6
7     printf("takeoff speed of jet km/hr:");
8     scanf("%lf", &takeoff_speed_kmph);
9
10    printf("distance over which the catapult accelerate the jet:");
11    scanf("%lf", &distance);
12
13    /*needed calculation*/
14    takeoff_speed_mps = (takeoff_speed_kmph)*(1000.0/3600.0);
15    time = takeoff_speed_mps/acceleration;
16    acceleration = (takeoff_speed_mps*takeoff_speed_mps)/(2*distance);
17
18    printf("predicted acceleration %.2lf (m/s^2)\n", acceleration);
19    printf("predicted time %.2lf seconds\n", time);
20
21    return 0;
22 }
```