```c
#include <stdio.h>

/*
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      Class: CS 125
      Assignment: Jet Engine Warmup
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*/

int main()
{
      // user input

      float ambTemp = 0;
      float fuel = 0;
      float reqTemp = 0;

      printf("Enter the Ambient tempurature: \n");
      scanf("%f", &ambTemp);

      printf("Enter fuel to the nearest gallon: \n");
      scanf("%f", &fuel);

      printf("Enter required engine tempurature for takeoff: \n");
      scanf("%f", &reqTemp);

      // static values

      float burnRate = 2; // gal/s
      float tempInc = 1.25; // F/s
      float strtEng = ambTemp + 3;
      float time = 0;

      // simulation

      if ((fuel < 0) || (reqTemp < 0))
      {
            printf("Values for fuel or required engine tempurature cannot be
negative. Please try again. \n");
            return 0;
      }

      if (strtEng > reqTemp)
      {
            printf("Engine is already warmed up. \n");
            return 0;
      }

      while (strtEng < reqTemp)
      {
            strtEng = strtEng + tempInc;
            time++;
            sleep(1);
      }

      // correcting final time increment

      float overTemp = strtEng - reqTemp;
      time = time - (overTemp / tempInc);
```

```c
        // output

        float galUsed = time * burnRate;
        fuel = fuel - galUsed;


        printf("Warmup completed after %.1f seconds. Warmup used %.1f gallons of
fuel. Remaining fuel left onboard is %.1f \n", time, galUsed, fuel);
}
```