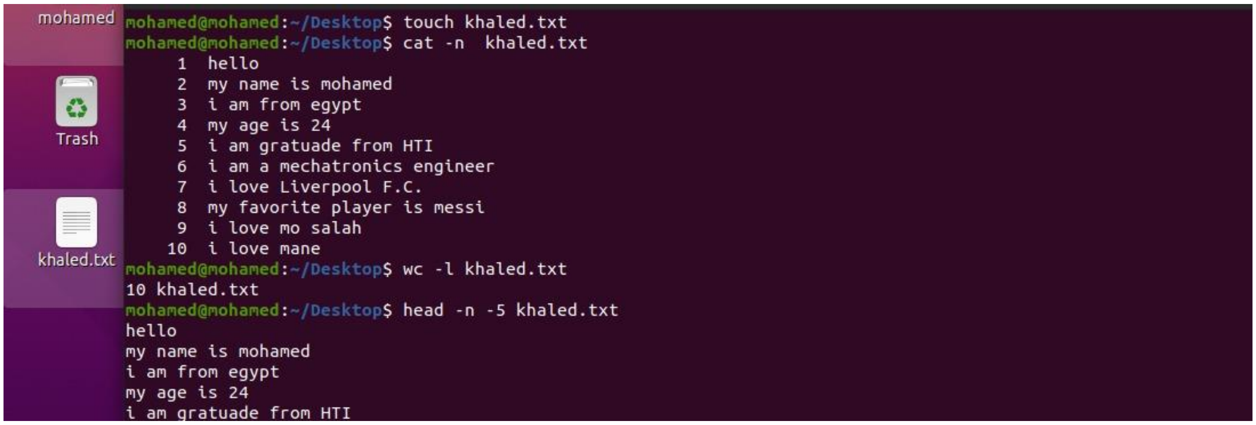
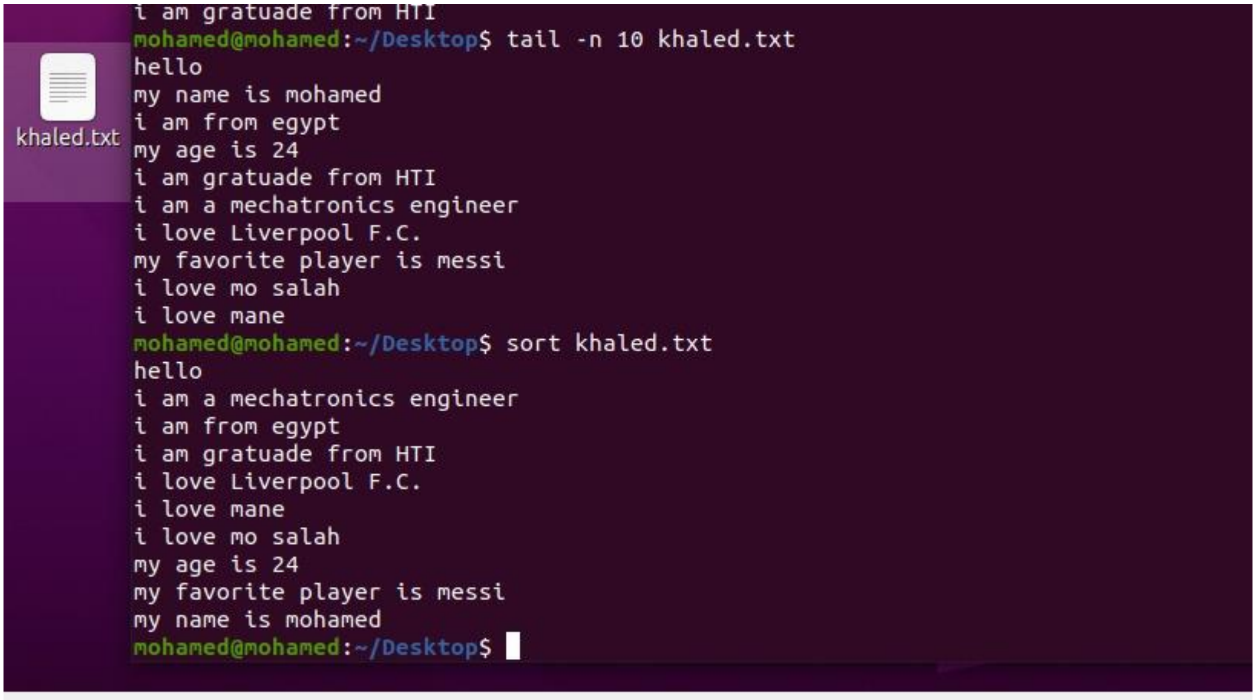
1-Create a file let’s say “khaled.txt” inside the file add more than 10 lines, you can use or download any file: by using commands lines

1. counts the number of lines inside the files.
2. prints the first 5 lines.
3. outputs the last 10 lines.
4. sorts the input lines alphabeticall.

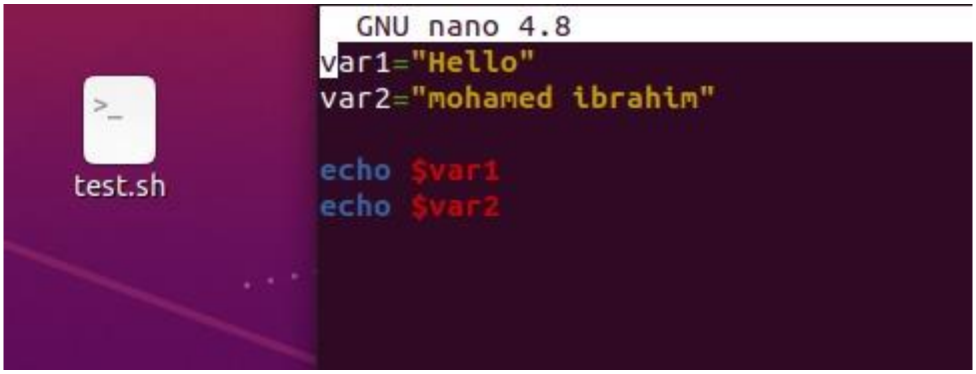


```
mohamed@mohamed:~/Desktop$ touch khaled.txt
mohamed@mohamed:~/Desktop$ cat -n  khaled.txt
     1  hello
     2  my name is mohamed
     3  i am from egypt
     4  my age is 24
     5  i am gratuade from HTI
     6  i am a mechatronics engineer
     7  i love Liverpool F.C.
     8  my favorite player is messi
     9  i love mo salah
    10  i love mane
mohamed@mohamed:~/Desktop$ wc -l khaled.txt
10 khaled.txt
mohamed@mohamed:~/Desktop$ head -n -5 khaled.txt
hello
my name is mohamed
i am from egypt
my age is 24
i am gratuade from HTI
```



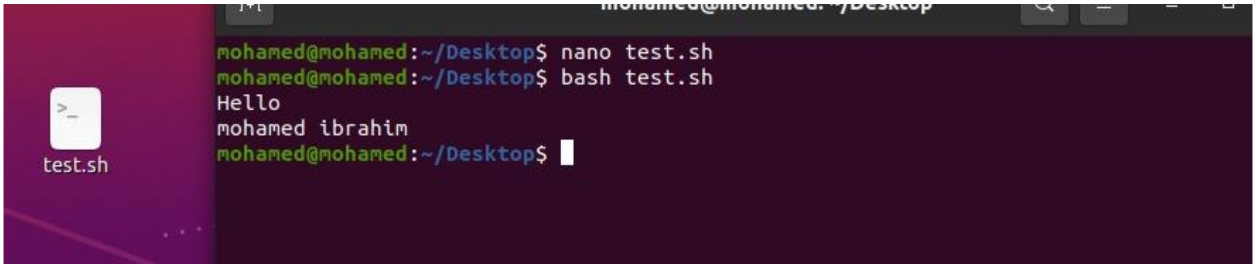
```
i am gratuade from HTI
mohamed@mohamed:~/Desktop$ tail -n 10 khaled.txt
hello
my name is mohamed
i am from egypt
my age is 24
i am gratuade from HTI
i am a mechatronics engineer
i love Liverpool F.C.
my favorite player is messi
i love mo salah
i love mane
mohamed@mohamed:~/Desktop$ sort khaled.txt
hello
i am a mechatronics engineer
i am from egypt
i am gratuade from HTI
i love Liverpool F.C.
i love mane
i love mo salah
my age is 24
my favorite player is messi
my name is mohamed
mohamed@mohamed:~/Desktop$
```

2-Setting your own variable:
Let’s learn how to set your own **variables** inside the script file…
1. First variable “Hello” Second variable “Your Name”, You should add 2 variables inside your script and run the script showing “Hello Your Name”.
Note: don’t use **echo.**



```
GNU nano 4.8
var1="Hello"
var2="mohamed ibrahim"

echo $var1
echo $var2
```



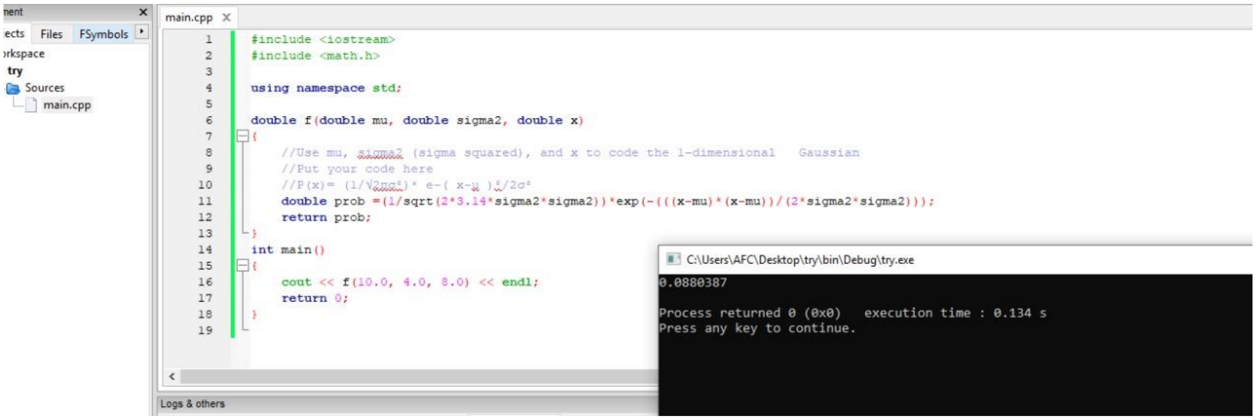
```
mohamed@mohamed:~/Desktop$ nano test.sh
mohamed@mohamed:~/Desktop$ bash test.sh
Hello
mohamed ibrahim
mohamed@mohamed:~/Desktop$
```

You have a cpp code and below you can find the equation check the image. I need to put this equation inside the code. it’s allowed to use any programming language.

```
#include <iostream>
#include <math.h>

using namespace std;

double f(double mu, double sigma2, double x)
{
   //Use mu, sigma2 (sigma squared), and x to code the 1-dimensional   Gaussian
   //Put your code here
   //double prob =
   return prob;
}
int main()
{
    cout << f(10.0, 4.0, 8.0) << endl;
    return 0;
}
```



```cpp
#include <iostream>
#include <math.h>

using namespace std;

double f(double mu, double sigma2, double x)
{
    //Use mu, sigma2 (sigma squared), and x to code the 1-dimensional   Gaussian
    //Put your code here
    //P(x)= (1/√2πσ²)* e-( x-µ )²/2σ²
    double prob =(1/sqrt(2*3.14*sigma2*sigma2))*exp(-(((x-mu)*(x-mu))/(2*sigma2*sigma2)));
    return prob;
}
int main()
{
    cout << f(10.0, 4.0, 8.0) << endl;
    return 0;
}
```

```
0.0880387

Process returned 0 (0x0)   execution time : 0.134 s
Press any key to continue.
```