Python code to print the first ten fibonacci numbers-

```
# program to print the first ten fibonacci numbers

n = 1
nold = 1
print 1,nold
print 2, n
for i in range(3,11):
    new = n+nold
    nold = n
    n = new
    print i, n
```

C code to print the first ten fibonacci numbers-

```
// program to print the first 10 fibonacci numbers

#include <stdio.h>

int main(){

    int i=0, n=1, nold=1, new= 0;
    printf("1  %d \n", nold);
    printf("2        %d \n", n);

    for(i=3; i<=10; i++){

            new= nold+ n;
            nold= n;
            n= new;
            printf("%d  %d\n",i,n);
    }

return 0;

}
```

Python code to generate and print the list of thousand numbers-

```
# program to make a list of thousand numbers using the algorithm given in the problem
from math import pi as alpha
 #alpha= round(alpha,4)

def frac(number):
    return number- int(number)

def main(no):
    n = [0]*1000
    n[0] = 0.2000
    for i in range(1,no):
            n[i]= (frac((n[i-1]+alpha)*100))

    for i in range(0, no):
            n[i] = round(n[i],4)
            print n[i]



main(1000)
```

C code to generate and print the list of thousand numbers-

```
// Program to print 1000 numbers with four digits using the given algorithm

#include <stdio.h>
#include <math.h>

#define pi 3.141596

int main(){

    int  i= 0;
    double array[1000]={0},j;

    array[0]= 0.2000;

    for(i=1; i<1000; i++){
            array[i]= modf((array[i-1] + M_PI)*100, &j);
            printf("%0.4f \n", array[i]);
```

```
    }

}
```

Python code to determine the word frequency in a file, print them with most frequent first and then plot a histogram of the 20 most frequent words-

```
# program to read in the words of a given file and then determine the word frequency

import sys

inputfile= sys.argv[1]



with open(inputfile, 'r') as f:
    file= f.read()
    words= file.strip().split()
    wordcount= {}
    for word in words:
            if word in wordcount:
                    wordcount[word] +=1
            else:
                    wordcount[word] = 1

##for word in wordcount:
##    print word, wordcount[word]

#for word in sorted(wordcount, key= wordcount.get):                    # key argument tells sorted
the basis on which its
#    print word, wordcount[word]                                                    # to sort
wordcount

for word in sorted(wordcount, key= wordcount.get, reverse =True):                    # key
argument tells sorted the basis on which its
    print word, wordcount[word]
                    # to sort wordcount

y=[]
x= sorted(wordcount, key= wordcount.get, reverse= True)[:20]
for word in x:
    y.append(int(wordcount[word]))

#print x,y

import matplotlib.pyplot as plt
```

```
#plt.hist(y,range(20))
mybar = plt.bar(range(len(x)), y, color='green', alpha=0.4)
plt.xticks(range(len(x)),x)
plt.title("word frequency")
plt.xlabel("word")
plt.ylabel("frequency")
plt.show()
```