1. Trace through the decimal addition algorithm of Figure 1.2 in the textbook using the following input values
   1. carry=0 C0=17 carry=1
   2. carry=1 C1=12 carry=1
   3. carry=1 C2=3 carry=0
   4. carry=0 C3=0 carry=0
2. Modify the algorithm of Figure 1.2 in the text such that it does not print out a non-significant zero. In its current form, the algorithm will output 0391 if you add 152 with 239. The leading 0 of 0391is the non-significant zero.

Step 8 if Cm>0

Print Cm

Step 9 stop.

1. One way to do multiplication is by repeated addition.

A=47 B=25 Input

Set total=0

While(B>0)

Total=A\*A

B=B-1

Print out the answer Total.

Stop.

4. Develop a formal argument that proves the sequential search algorithm we discussed in our class cannot have an infinite loop.

if (Ai>largest\_so\_far)//if Ai<= largest\_so\_far stop..

5. For the find the largest number algorithm, answer the following questions

Get size of the list, size

Get A0, A1, .., Asize‐1

Set largest\_so\_far to A0

Set location to 0

Set i to 1

while (i<size)

do

if (Ai>largest\_so\_far)

Set largest\_so\_far to Ai

Set location to i

Set i to i+1

end of loop

print largest\_so\_far and location

Stop

o while (*i<n*)=TRUE

o while (*i>=n*)=FALSE

o while (*i=n*)=TRUE

6.

Set new\_k = k+1

While(new\_k>0)

Nnew\_k-k=Nk.

New\_k=new\_k-1.

K=k-1.

End-of-loop

Print out Nnew\_k1, Nnew\_k2…..

7.

Set total =0

While (players/2 !=0)

If(Players is even)

Total = total+players/2

Else

Total = Total + ┗players/2┙+ 1

8.

A;1.2.3.4.5 no Exchange

B

Exchange 1

43215

Exchange 2

32145

Exchange 3

21345

Exchange 4

12345

C 3.3.3.3.3 no Exchange

D

Exchange1

0 7 5 2 9

Exchange 2

0 5 2 7 9

Exchange 3

0 2 5 7 9

9.

A;1.2.3.4.5 no Exchange

B

Exchange 1

45321

Exchange 2

43521

Exchange 3

43251

Exchange 4

43215

Exchange 5

34215

Exchange 6

32415

Exchange 7-10

32145---23145---21345---12345

C 3.3.3.3.3 no Exchange

D

Exchange1

09752---07952---07592---07529---05729---05279---02579

10.

List: Boris, Cathy, Chris, Darren, Iyad, Justin, Gordon, Paul, Tom, Vickie

Key: Elsa

Step1: Elsa!=Iyad

Step2: Elsa!= Justin,

Step3: Elsa!= Darren,

Etc

Key: chris

Step1: chris!=Iyad

Step2: chris!= Justin,

Step3: chris!= Darren,

Step4: chris = Chris,

End- of-loop

Key: Vickie

Step1: Vickie!=Iyad

Step2: Vickie!= Justin,

Step3: Vickie!= Darren,

etc

Step10: Vickie = Vickie,

End- of-loop

List: 3 6 7 9 12 14 18 21 22 31 43

Key:35

Step1:35!=14

Step2:35!=22

Step3:35!=31

Key:3

Step1: 3!=14

Step2: 3!=7

Step3: 3!=6

Step4: 3=3 (Print M ,set Found to true,)

11.

10\*5^2