Write program for following list of topics:

1. Inserting new element at required position.

#include<stdio.h>

#include<conio.h>

void main()

{

int a[100], pos, nel, i;

clrscr();

printf(“Enter no of elements to be inserted”);

scanf(“%d”, &n);

printf(“Enter %d elements”, n);

for(i=0;i<n;i++)

{

scanf(“%d”, &a[i]);

}

printf(“Enter position at which you want to insert new element”);

scanf(“%d”, &pos);

printf(“Enter new element”);

scanf(“%d”, &nel);

for(i=n-1; i>=pos; i--)

{

a[i+1] = a[i];

}

a[pos]=nel;

n++;

printf(”New array is:\n”);

for(i=0; i<n; i++)

{

printf(“%d\t”, a[i]);

}

getch();

}

1. Deletion of any element.

#include<stdio.h>

#include<conio.h>

void main()

{

int a[100], pos, i;

clrscr();

printf(“Enter no of elements to be inserted”);

scanf(“%d”, &n);

printf(“Enter %d elements”, n);

for(i=0;i<n;i++)

{

scanf(“%d”, &a[i]);

}

printf(“Enter position at which you want to delete an element”);

scanf(“%d”, &pos);

for(i=pos; i<n; i++)

{

a[i] = a[i+1];

}

n--;

printf(”New array is:\n”);

for(i=0; i<n; i++)

{

printf(“%d\t”, a[i]);

}

}

1. Modification of any element.

#include<stdio.h>

#include<conio.h>

void main()

{

int a[100], pos, nel, i;

clrscr();

printf(“Enter no of elements to be inserted”);

scanf(“%d”, &n);

printf(“Enter %d elements”, n);

for(i=0;i<n;i++)

{

scanf(“%d”, &a[i]);

}

printf(“Enter position at which you want to modify an element”);

scanf(“%d”, &pos);

printf(“Enter new element”);

scanf(“%d”, &nel);

a[pos]=nel;

printf(”New array is:\n”);

for(i=0; i<n; i++)

{

printf(“%d\t”, a[i]);

}

getch();

}

1. Merging of arrays.

#include<stdio.h>

#include<conio.h>

void main()

{

int a[6], b[4], c[10], i, j;

clrscr();

printf(“Enter elements of first array\n”);

for(i=0;i<6;i++)

scanf(“%d”, &a[i]);

printf(“Enter elements of second array\n”);

for(i=0;i<4;i++)

{

scanf(“%d”, &a[i]);

}f

or(i=0; i<6; i++)

{

c[i]=a[i];

}

j=i;

for(i=0; i<4; i++)

{

c[j]=a[i];

j++;

}

printf(“The resulting array is:\n”);

for(i=0; i<10; i++)

{

printf(”%d\t”, c[i]);

}

Now revise your own algorithm from assignment 2.

1. Explain one of your real life problems and design an algorithm to solve your problem.

Algorithm for making a tea:

Step 1: Start

Step 2: Get up from bed.

Step 3: Fill the kettle with water.

Step 4: Turn the gas stove on.

Step 5: Put the kettle on the stove.

Step 6: Put sugar and tea in the kettle.

Step 7: If the tea in the kettle is not boiling, then goto step7

Step 8: Switch the gas off.

Step 9: Pour tea from the kettle into cup.

Step 10: Stop

Naïve algorithm Vs. Efficient algorithm

1. We all know naïve way of writing an algorithm for Fibonacci number now try to devise and algorithm if possible even solve it using efficient algorithm.