Ans to the question no 1:

```
#include<stdio.h>
int main()
{
   int i,j,n;
   printf("Size of the array\n");
   scanf("%d",&n);
   int a[n];
   printf("write the values\n");
   for(i=0;i<n;i++){
      scanf("%d",&a[i]);
   }
   printf("Duplicate values are - " );
   for(i=0;i<n;i++)
   {
      for(j=i+1;j<n;j++)
      {  if(a[i]==a[j])
         {
            printf("%d",a[i]);
         }
      }
   }
}
```

Ans to the question no 2:

```
            #include<stdio.h>
int main()
{
    int i,j,n,k=0;
    printf("Size of the array\n");
    scanf("%d",&n);
    int a[n];
    printf("write the values\n");
    for(i=0;i<n;i++)
    {
        scanf("%d",&a[i]);
    }
    printf("After removing the duplicate values - \n" );

   for(i=0; i<n; i++)
    {
        for(j=i+1; j<n; j++)
        {

            if(a[i] == a[j])
            {

                for(k=j; k<n; k++)
                {
                    a[k] = a[k + 1];
                }
                    n--;

                    j--;
            }
        }
    }

            for(i=0; i<n; i++)
    {
        printf("%d ", a[i]);
    }
}
```

Ans to the question no 3:

```
#include<stdio.h>
#define size 10
int main()
{

    int i,j,n;
    int a[size]= {5,10,20,30,40,50,60,80,90,100};
    int b[size]= {5,10,22,30,49,50,60,70,99,100};
    for(i=0;i<size;i++)
    {
      for(j=0;j<size;j++)
      {
          if(a[i]==b[j])
          {
              printf("%d ",a[i]);
          }
      }
    }
}
```

Ans to the question no 4:

```
#include<stdio.h>
#define size 10
int main()
{

    int i,j,k,temp;
    int a[size]= {1,4,9,2,3,6,5,8,7,10};
    printf("input the kth value :\n");
    scanf("%d",&k);
    for(i=0;i<size;i++)
    {
      for(j=i+1;j<size;j++)
      {
          if(a[i]>a[j])
          {
             temp=a[i];
             a[i]=a[j];
             a[j]=temp;
          }
      }
   }
         printf("The kth smallest number in the array is : %d ",a[k-1]);
return 0;
}
```

Ans to the question no 5:

```
#include<stdio.h>
#define size 10
int main()
{

   int i,j=9,k,temp;

   int a[size]= {1,2,3,4,5,1,2,3,4,5};
   int b[size];

   for(i=0;i<size;i++)
   {
      b[j]=a[i];
      j--;
   }
    printf("The array is reverse in place :\n");
  for(i=0;i<size;i++)
  {
     a[i]=b[i];
     printf("%d ",a[i]);
  }
return 0;
}
```

Ans to the question no 6:

```
#include<stdio.h>
#include<stdlib.h>
void swap(int *b,int *c)
{
   int temp=*b;
      *b=*c;
      *c=temp;
}
void BUBBLE_SORT(int a[],int n){
   int i,j;
for(i=0;i<n-1;i++)
```

```
      {
        for(j=0;j<(n-1)-i;j++)
        {
            if(a[j]>a[j+1])
           {
              swap(&a[j+1],&a[j]);
           }

        }
    }
}
int main()
{
int i,j,n=500,k=0;
int a[500];
    FILE *fptr,*fptr1,*ftr;
    fptr = fopen("in.txt","w");
    ftr=fopen("in.txt","r");
    fptr1 = fopen("out.txt","w");

    for(i=0;i<n;i++)
    {
        a[i]=rand()%(251+249)-249;
        fprintf(fptr,"%d  ",a[i]);
    }


     while (!feof (ftr))
    {


      fscanf (ftr, "%d", &a[k]);
      k++;
    }
    BUBBLE_SORT(a,n);


   for(int i=0;i<n;i++)
    {
      printf("%d ",a[i]);
      fprintf(fptr1,"%d  ",a[i]);
    }


fclose(fptr);
fclose(fptr1);
fclose(ftr);
 return 0;
}
```

Ans to the question no 7:

```
#include<stdio.h>
```

```
#include<stdlib.h>
void INSERTION_SORT(char a[],int n)
 {
    int i,j,temp;
for (i = 1 ; i <= n - 1; i++)
    {
              j = i;
            while ( j > 0 && a[j-1] > a[j])
            {
                temp     = a[j];
                a[j]   = a[j-1];
                a[j-1] = temp;
                j--;
            }
    }
 }
 void REPLACEMENT_SORT(char b[],int n)
{     int i,j,temp;
    for(i=0;i<n-1;i++)
    {
        for(j=i+1;j<n;j++)
        {
            if(b[i]>b[j])
                {
                    temp=b[i];
                    b[i]=b[j];
                    b[j]=temp;
                }
        }
}
for(i=0;i<n;i++)
    {
        printf("%C ",b[i]);
    }

 }
int main()
{
int i,j,n=1000,k=0;
char a[1000];
    FILE *fptr,*fptr1,*ftr;
    fptr = fopen("in.txt","w");
    ftr=fopen("in.txt","r");
    fptr1 = fopen("in.txt","w");

    for(i=0;i<n;i++)
    {
        a[i]=(rand()%(91-65))+65;
        fprintf(fptr,"%c  ",a[i]);
    }

     while (!feof (ftr))
    {

      fscanf (ftr, "%d", &a[k]);
      k++;
    }
    INSERTION_SORT(a,n);
   for(int i=0;i<n;i++)
    {
      fprintf(fptr1,"%c  ",a[i]);
    }
    REPLACEMENT_SORT(a,n);

fclose(fptr);
fclose(fptr1);
fclose(ftr);
 return 0;

}
```

Ans to the question no 8:

```
#include<stdio.h>
int main()
{
    int i,j,n;
    int A[100];
    printf("Size of the array: ?\n");
    scanf("%d",&n);
    printf("input numbers : \n");
    for(i=0;i<n;i++)
    {
        scanf("%d",&A[i]);
    }
    for(i=0;i<n;i++)

    {
        if(A[i]%3==0)
        {
            A[i]=-1;
        }
    }
    for(i=0;i<n;i++)
    {
         printf("%d ",A[i]);
    }
    return 0;
}
```

Ans to the question no 9:

```
#include<stdio.h>
int main()
{
    int n,total=0,sum=0,coins=0;
    printf("number of values :\n");
    scanf("%d",&n);
    int a[n];
    printf("Enter values :\n");
    for(int i=0;i<n;i++)
    {
        scanf("%d",&a[i]);
        total+=a[i];
    }
    for(int i=0;i<n;i++)
    {
        for(int j=i+1;j<n;j++)
        if(a[i]<a[j])
        {
            int u=a[i];
            a[i]=a[j];
            a[j]=u;
        }
    }

    for(int i=0;i<n;i++)
    {
        sum+=a[i];
        coins++;
        if(sum>(total-sum))
        break;
    }
    printf("minimum number of coins need : %d",coins);
}
```

Ans to the question no 10:

```
#include<stdio.h>
int main()
{
    int i,j,n;
    int a[100];
    int c[1][1];
    printf("Enter the size of the array :\n");
    scanf("%d",&n);
    printf("Input Values :\n");
    for(i=0;i<n;i++)
    {
        scanf("%d",&a[i]);
    }
    for(i=0;i<n;i++)
    {
        for(j=i+1;j<n;j++)
        {
           if(a[i]<a[j])
           {
               int temp =a[j];
               a[j]=a[i];
               a[i]=temp;
           }

        }
    }
int min=a[0]-a[1];
    for(i=0;i<n;i++)
    {
        for(j=i+1;j<n;j++)
        {

           if( min>=a[i]-a[j])
           {
              min=a[i]-a[j];
              c[0][0]=a[j];
              c[0][1]=a[i];
           }
        }
    }
     printf(" \nThe pairs of elements with the smallest difference :\n");
     printf("%d %d",c[0][0],c[0][1]);

    return 0;
}
```