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Assignment 14(array)

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/*1. Write a program to calculate the sum of numbers stored in an array of size 10. Take array values from the user.*/  
#include<stdio.h>  
int main(){  
    int a[10],i,sum=0;  
    printf("Enter a 10 number\n");  
    for(i=0;i<=9;i++)  
    {  
        scanf("%d",&a[i]);  
        sum=sum+a[i];  
    }  
    printf("the sum of the number is %d",sum);  
    printf("\n");  
    return 0;  
}
```

```
/*2. Write a program to calculate the average of numbers stored in an array of size 10. Take array values from the user.*/  
#include<stdio.h>  
int main()  
{  
    int a[10],i,sum=0;  
    float avg;  
    printf("Enter a 10 number \n");  
    for(i=0;i<=9;i++)  
    {  
        scanf("%d",&a[i]);  
        sum+=a[i];  
        avg=sum/10.0;  
    }  
    printf("the avg of a number is %f",avg);
```

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    printf("\n");  
    return 0;  
}
```

```
/*3. Write a program to calculate the sum of all even numbers and sum of all odd numbers, which are stored in an array of size 10. Take array values from the user.*/  
#include<stdio.h>  
int main (){  
    int a[10],i,sumodd=0,sumeven=0;  
    printf("enter a 10 number \n");  
    for(i=0;i<=9;i++)  
    {  
        scanf("%d",&a[i]);  
        if(a[i]%2==0)  
            sumeven=sumeven+a[i];  
        else  
            sumodd=sumodd+a[i];  
    }  
    printf("the sum of odd number is %d\n",sumodd);  
    printf("the sum of even number is %d\n",sumeven);  
    printf("\n");  
    return 0;  
}
```

```
/*4. Write a program to find the greatest number stored in an array of size 10. Take array values from the user.*/  
#include<stdio.h>  
int main (){  
    int a[10],i;  
    printf("enter a 10 number \n");  
    for(i=0;i<=9;i++)  
    {  
        scanf("%d",&a[i]);
```

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        if(a[i]>a[i-1])
            a[i-1]=a[i];

    }
    printf("the greatest number in array is %d",a[i-1]);
    printf("\n");
    return 0;
}

```

/*5. Write a program to find the smallest number stored in an array of size 10. Take array values from the user.*/

```

#include<stdio.h>
int main (){
    int a[10],i;
    printf("enter a 10 number \n");
    for(i=0;i<=9;i++)
    {
        scanf("%d",&a[i]);
        if(a[i]>a[0])
            a[i]!=a[0];
    }
    printf("the smallest number in array is %d",a[0]);
    printf("\n");
    return 0;
}

```

/*6. Write a program to sort elements of an array of size 10. Take array values from the user.*/

```

#include<stdio.h>
int main (){
    int a[10],temp;
    printf("Enter a 10 number\n");
    for(int i=0;i<=9;i++)
    {
        scanf("%d",&a[i]);
    }
    for(int i=0;i<=9;i++)
    {
        for(int j=i+1;j<=9;j++)
        {
            if(a[i]>a[j])
            {
                temp=a[i];
                a[i]=a[j];
                a[j]=temp;
            }
        }
    }
    printf("array element ");
    for (int i = 0; i <=9; i++)
    {
        printf("%d\n",a[i]);
    }
    return 0;
}

```

/*7. Write a program to find second largest in an array. Take array values from the user.*/

```

#include <stdio.h>

int main() {
    int a[10],i,largest,second;
    printf("Enter a number \n");
    for(i=0;i<=9;i++)
    {
        scanf("%d",&a[i]);
    }

```

```

    if(a[0] > a[1]) {
        largest = a[0];
        second = a[1];
    }

```

```

else
{
    largest = a[1];
    second = a[0];
}

```

```

for(i = 2; i<=9; i++)
{
    if( largest < a[i] )
    {
        second = largest;
        largest = a[i];
    }
    else if( second < a[i])
    {
        second = a[i];
    }
}

```

```

printf("Largest - %d \nSecond - %d \n", largest, second);

```

```

return 0;
}
/*8. Write a program to find the second smallest number in an array. Take array values
from the user.*/
#include<stdio.h>
int main ()
{
    int n;
    printf("enter a array number");
    scanf("%d",&n);
    int a[n];
    printf("Enter a %d number\n",n);
    for(int i=0;i<n;i++)
    {
        scanf("%d",&a[i]);
    }
    int temp;
    for(int i=0;i<n;i++)
    {
        for(int j=i+1;j<n;j++)
        {
            if(a[i]<a[j])
            {
                temp=a[i];
                a[i]=a[j];
                a[j]=temp;
            }
        }
    }
    printf("The smallest second element is %d",a[n-2]);
    return 0;
}
/*9. Write a program in C to read n number of values in an array and display it in reverse
order. Take array values from the user.
*/
#include<stdio.h>
int main(){
    int n;
    printf("Enter a array size\n");
    scanf("%d",&n);
    int a[n];
    printf("Enter a n number for array\n");
    for (int i = 0; i < n; i++)
    {
        scanf("%d",&a[i]);
    }
    for (int i = 0; i < n/2; i++)
    {
        int temp;
        temp=a[i];
        a[i]=a[n-i-1];

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        a[n-i-1]=temp;
    }
    for(int i=0;i<n;i++)
    {
        printf("%d\n",a[i]);
    }
return 0;
}

```

/*10. Write a program in C to copy the elements of one array into another array. Take array values from the user.*/

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

```

int main()
{
    int length;
    int arr1[length],arr2[length] ;

    printf("Enter a array size\n");
    scanf("%d",&length);

    printf("Enter a n number for array\n");
    for (int i = 0; i < length; i++)
    {
        scanf("%d",&arr1[i]);
    }
    for (int i = 0; i < length; i++) {
        arr2[i] = arr1[i];
    }

    //Displaying elements of array arr1
    printf("Elements of original array: \n");
    for (int i = 0; i < length; i++) {
        printf("%d ", arr1[i]);
    }

    printf("\n");

    //Displaying elements of array arr2
    printf("Elements of new array: \n");
    for (int i = 0; i < length; i++) {
        printf("%d ", arr2[i]);
    }
    return 0;
}

```