Assignment – 14

A Job Ready Bootcamp in C++, DSA and IOT

Array in C Language

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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.

PROGRAM;

#include<stdio.h>

void get\_value(int a[]);

void print\_sum(int a[]);

void get\_value(int a[])

{

printf(" Enter the values of array: ");

for(int i=1;i<=10;i++)

{

scanf("%d",&a[i]);

}

}

void print\_sum(int a[])

{

int sum=0;

for(int i=1;i<=10;i++)

{

sum=sum+a[i];

}

printf("sum of the values are %d ",sum);

}

int main()

{

int a[10];

get\_value(a);

print\_sum(a);

return 0;

}

OUPTUT;

Enter the values of array: 1 2 3 4 5 6 7 8 9 10

sum of the values are 55

--------------------------------

Process exited after 9.206 seconds with return value 0

Press any key to continue . . .

2. Write a program to calculate the average of numbers stored in an array of size 10.

Take array values from the user.

PROGRAM:

#include<stdio.h>

void get\_value(int a[]);

float avg(int a[]);

void get\_value(int a[])

{

printf(" Enter the values of array: ");

for(int i=1;i<=10;i++)

{

scanf("%d",&a[i]);

}

}

float avg(int a[])

{

float sum=0;

for(int i=1;i<=10;i++)

{

sum=sum+a[i];

}

return sum/10;

}

int main()

{

int a[10];

get\_value(a);

printf("the average of value is %.2f ",avg(a));

return 0;

}

OUPUT:

Enter the values of array: 1 2 3 4 5 6 7 8 9 10

the average of value is 5.50

--------------------------------

Process exited after 15.35 seconds with return value 0

Press any key to continue . . .

1. 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.

Program:

#include<stdio.h>

void get\_value(int a[]);

float avg(int a[]);

void get\_value(int a[])

{

printf(" Enter the values of array: ");

for(int i=1;i<=10;i++)

{

scanf("%d",&a[i]);

}

}

int sum\_odd(int a[])

{

int sum=0;

for(int i=1;i<10;i=i+2)

{

sum=sum+a[i];

}

return sum;

}

int sum\_even(int a[])

{

int sum=0;

for(int i=2;i<10;i=i+2)

{

sum=sum+a[i];

}

return sum;

}

int main()

{

int a[10];

get\_value(a);

printf("the sum of the odd values is %d",sum\_odd(a));

printf("\nthe sum of even numver values is %d",sum\_even(a));

return 0;

}

Output;

Enter the values of array: 1 2 3 4 5 6 7 8 9 10

the sum of the odd values is 25

the sum of even numver values is 20

--------------------------------

Process exited after 8.526 seconds with return value 0

Press any key to continue . . .

4. Write a program to find the greatest number stored in an array of size 10. Take array

values from the user.

PROGRAM:

#include<stdio.h>

void get\_value(int a[]);

int max\_num(int a[]);

void get\_value(int a[])

{

printf(" Enter the values of array: ");

for(int i=1;i<=10;i++)

{

scanf("%d",&a[i]);

}

}

int max\_num(int a[])

{

int max=-1;

for(int i=1;i<=10;i++)

{

if(max<a[i])

{

max=a[i];

}

}

return max;

}

int main()

{

int a[10];

get\_value(a);

printf("Maximum number is %d",max\_num(a));

return 0;

}

OUTPUT:

Enter the values of array: 10 11 12 7 8 9 4 5 6 1

Maximum number is 12

--------------------------------

Process exited after 19.27 seconds with return value 0

Press any key to continue . . .

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

user.

Program:

#include<stdio.h>

void get\_value(int a[]);

void sorting(int a[]);

void print\_sorting(int a[]);

void get\_value(int a[])

{

printf(" Enter the values of array: ");

for(int i=1;i<=10;i++)

{

scanf("%d",&a[i]);

}

}

void print\_sorting(int a[])

{

for(int i=1;i<=10;i++)

{

printf("%d ",a[i]);

}

}

void sorting(int a[])

{

for(int i=1;i<10;i++)

{

for(int j=i+1;j<=10;j++)

{

int temp;

if(a[i]>a[j])

{

temp=a[j];

a[j]=a[i];

a[i]=temp;

}

}

}

}

int main()

{

int a[10];

get\_value(a);

sorting(a);

print\_sorting(a);

return 0;

}

Output;

Enter the values of array: 9 8 7 6 5 3 2 1 4 10

1 2 3 4 5 6 7 8 9 10

--------------------------------

Process exited after 9.687 seconds with return value 0

Press any key to continue . . .

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

#include<stdio.h>

void get\_value(int a[]);

int second\_largest(int a[]);

void get\_value(int a[])

{

printf(" Enter the six values of array: ");

for(int i=1;i<=6;i++)

{

scanf("%d",&a[i]);

}

}

int second\_largest(int a[])

{

int first =-1;

int second;

for(int i=1;i<=6;i++)

{

if(first<a[i])

{

second=first;

first=a[i];

}

if(first>a[i] && second<a[i])

{

second=a[i];

}

}

return second;

}

int main()

{

int a[6];

get\_value(a);

printf("second largest value is %d",second\_largest(a));

return 0;

}

OUTPUT:

Enter the six values of array: 2 6 4 3 7 1

second largest value is 6

--------------------------------

Process exited after 19.61 seconds with return value 0

Press any key to continue . . .

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.

Program:

#include<stdio.h>

void get\_value(int a[]);

int second\_largest(int a[]);

void get\_value(int a[])

{

printf(" Enter the six values of array: ");

for(int i=1;i<=6;i++)

{

scanf("%d",&a[i]);

}

}

void revers(int a[])

{

printf("Reverse order is :\n");

for(int i=6;i>0;i--)

{

printf("%d ",a[i]);

}

}

int main()

{

int a[6];

get\_value(a);

revers(a);

return 0;

}

Output:

Enter the six values of array: 8 7 6 4 5 2

Reverse order is :

2 5 4 6 7 8

--------------------------------

Process exited after 7.318 seconds with return value 0

Press any key to continue . . .

10. Write a program in C to copy the elements of one array into another array.Take array

values from the user.

PROGRAM:

#include<stdio.h>

void get\_value(int a[]);

int second\_largest(int a[]);

void print\_value(int a[]);

void get\_value(int a[])

{

printf(" Enter the six values of array: ");

for(int i=1;i<=6;i++)

{

scanf("%d",&a[i]);

}

}

void print\_value(int a[])

{

for(int i=1;i<6;i++)

{

printf("%d ",a[i]);

}

}

void copy\_array(int a[])

{

int b[6];

for(int i=1;i<=6;i++)

{

b[i]=a[i];

}

printf("array a has following values: \n");

print\_value(a);

printf("\narary b has following values :\n");

print\_value(b);

}

int main()

{

int a[6];

get\_value(a);

copy\_array(a);

return 0;

}

OUTPUT:

Enter the six values of array: 5 6 4 9 8 7

array a has following values:

5 6 4 9 8

arary b has following values :

5 6 4 9 8

--------------------------------

Process exited after 3.713 seconds with return value 0

Press any key to continue . . .