**DSA BOOTCAMP ASSIGNMENT**

Q1. Write a program to Swap to two numbers.

#include<iostream>

#include<conio.h>

Using namespace std;

void main()

{

int a,b,c;

cout<<”Enter the value of a”;

cin>>a;

cout<<”enter the value of b”;

cin>>b;

c=a;

a=b;

b=c;

cout<<”After the swap a:”<<a “b:”<<b;

}

Q2. Write a program to find the largest number among three numbers entered by the user.

#include <iostream>

int main()

int n1, n2, n3;

cout<<"Enter three different numbers: ";

cin>>n1, n2, n3;

// if n1 is greater than both n2 and n3, n1 is the largest

if (n1 >= n2 && n1 >= n3)

cout<<"%.2f is the largest number.", n1;

// if n2 is greater than both n1 and n3, n2 is the largest

if (n2 >= n1 && n2 >= n3)

cout<<"%.2f is the largest number.", n2;

// if n3 is greater than both n1 and n2, n3 is the largest

if (n3 >= n1 && n3 >= n2)

cout<<"%.2f is the largest number.", n3;

return 0;

}

Q3. Write a program to check whether a year entered by a user is Leap year or not.

#include<iostream>

using namespace std;

int main{

int year;

cout<<”Enter the Year”;

cin>>year;

if(year%4==0)

{

if(year%100==0)

{

if(year%400==0)

cout<<year<<”is leap year”;

else

cout<<year<<”is not a leap year”;

}

else

cout<<year<<”is a leap year”;

}

else

cout<<year<<”is not a leap year”;

return 0;

}

Q4. Write a program to display Fibonacci Series upto nth term. (Using loops)

#include<iostream>

using namespace std;

int main()

{

Int n,t1=0,t2=1,next term=0;

Cout<<”Enter the no of terms”;

Cin>>n;

Cout<<”FIbonacci series”;

For(i=1;i<=n;i++)

If(i==1)

Cout<<t1<<”,”;

Continue;

}

If(i==2)

Cout<<t2<<”,”;

Continue;

}

next term=t1+t2;

t1=t2;

t2=next term;

cout<<next term<<”,”;

}

return 0;

}

Q5. Write a program to check whether a number is Prime or Not.

#include <iostream>

using namespace std;

int main()

{

int n, i, m=0, flag=0;

cout << "Enter the Number to check Prime: ";

cin >> n;

m=n/2;

for(i=2;i<=m;i++)

{

if(n%i==0)

{

cout<<”no is not prime”;

flag=1;

break;

}

}

if(flag==0)

cout<<”No is prime”;

return 0;

}

Q6. Print this pattern using loops

For n=5

    \*

  \* \*

  \* \* \*

\* \* \* \*

\* \* \* \* \*

#include <iostream>

using namespace std;

void pypart(int n)

{

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

for (int j = 0; j <= i; j++) {

cout << "\* ";

}

// Ending line after each row

cout << endl;

}

}

int main()

{

int n = 5;

pypart(n);

return 0;

}

Q7.Write a program that takes n elements from the user and displays the second largest element of an array.

#include <iostream>

using namespace std;

/\* Function to print the second largest elements \*/

void print2largest(int arr[], int arr\_size)

{

int i, first, second;

/\* There should be atleast two elements \*/

if (arr\_size < 2) {

printf(" Invalid Input ");

return;

}

// sort the array

sort(arr, arr + arr\_size);

// start from second last element

// as the largest element is at last

for (i = arr\_size - 2; i >= 0; i--) {

// if the element is not

// equal to largest element

if (arr[i] != arr[arr\_size - 1]) {

printf("The second largest element is %d\n", arr[i]);

return;

}

}

printf("There is no second largest element\n");

}

/\* Driver program to test above function \*/

int main()

{

int arr[] = { 12, 35, 1, 10, 34, 1 };

int n = sizeof(arr) / sizeof(arr[0]);

print2largest(arr, n);

return 0;

}