26-06-2024

Member C() defining outside the class using Pointers :-

```cpp
-> using namespace std;
# include < iostream >
class complex
{
    private : int a, b;
    public : void get ()
    {
        cout << "enter a, b"; cin >> a >> b;
    }
    void add ( complex p, complex q)
    {
        a = p.a + q.a; b = p.b + q.b;
    }
    void display ()
    {
        cout << a << "+ i" << b;
    }
};
main ()
{
    complex p, q, r, *m, *n, *o;
    m = &p; n = &q; o = &r;
    m -> get ();
    n -> get ();
    o -> add (p, q);
    o -> display ();
}
```

using this keyword :-

→ using namespace std;
include < iostream >

class complex
{
    private : int a, b;
    public : void get ()
        {
            cout << "enter a, b"; cin >> a >> b;
        }
    void add (complex * m, complex * n)
        {
            this -> a = m -> a + n -> a;
            this -> b = m -> b + n -> b;
        }
    void display ()
        {
            cout << a << " + i " << b;
        }
};
main ()
{
    complex P, q, r, * m, * n, * o;
    m = & P; n = & q, o = & r;
    m -> get ();
    n -> get ();
    o -> add (m, n);
    o -> display ();
}

Q:- Given a number & that numbers should be Divisible by its factors using Divisibility rules:-

```c
-> # include < stdio.h >
   void checkDivisibility (int num) {
     printf ("%d: ", num);

     if (num % 2 == 0)
     printf (" divisible by 2 ");
     if (num % 3 == 0)
     printf (" divisible by 3 ");
     if (num % 5 == 0)
     printf (" divisible by 5 ");
     printf ("\n");
   }

   int factorial (int num)
```

o/p:- 3
5
7
10

```c
→ #include <stdio.h>
void checkDivisibility (int num)
{
    if (num % 2 == 0)
    printf ("Divisible by 2");
    if (num % 3 == 0)
    printf ("Divisible by 3");
    if (num % 5 == 0)
    printf ("Divisible by 5");
    printf (" \n");
}

int main ()
{
    int num;
    printf ("Enter a number : ");
    scanf ("%d", &num);
    checkDivisibility (num);
}
```

[O R]

```c
→ #include <stdio.h>
#include <stdbool.h>

bool isPrime (int num)
{
    if (num <= 1)
        return false;
    int i;
```

```c
for (i = 2; i * i <= num; i++)
{
    if (num % i == 0)
        return false;
}
return true;
}

void checkDivisibility (int num)
{
    int i;
    for (i = 2; i <= num; i++)
    {
        if (isPrime(i) && num % i == 0)
        {
            printf (" Divisible by %d \n", i);
        }
    }
    printf ("\n");
}

void clearInputBuffer ()
{
    int c;
    while ((c = getchar ()) != '\n' && c != EOF);
}
// EOF - END OF FILE

int main ()
{
    int num;
    char choice;
```

```c
do
{
    printf (" Enter a number:   ");
    scanf ("%d", &num);

    checkDivisibility (num);

    printf ("\n Do you want to check another number?
                    (y/n):");
    clearInputBuffer ( );    // clear the input buffer
    scanf (" %c", &choice);
}
while ( choice == 'y' || choice == 'Y');

printf ("\n Thank you for running the code :) \n");
}
```

O/P :-

Enter a number: 95
Divisible by 5
Divisible by 19

Enter a number: 117
Divisible by 3
Divisible by 13

Enter a number: 7980
Divisible by 2
Divisible by 3
Divisible by 5
Divisible by 7
Divisible by 19

Enter a number: 2530
Divisible by 2, 5, 11, 23

Enter a number: 182
Divisible by 2, 7, 13

Enter a number: 270
Divisible by 2, 3, 5