ROLL NO: 20P-0165

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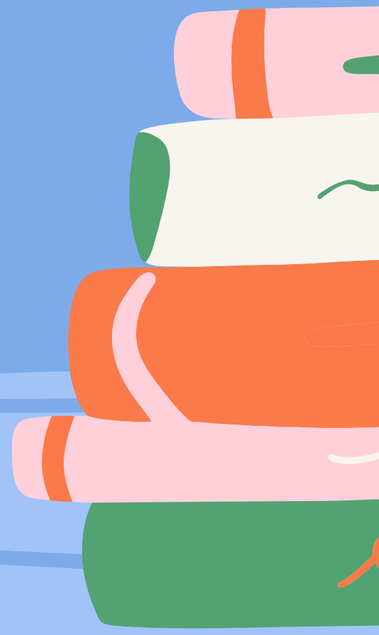
Section : 2A



Code No 1

1.cpp > main()

```cpp
#include <iostream>   //  Including the header file input output stream
using namespace std;  //  Including the std to use cout only

int main()  // Main Function that will return an integer
{
    int number = 10;  // Declaring the variable with initial value 10
    cout << "The Value of the Number is = " << number << endl;  // Printing the Value that number have
    cout << "The Address of the Number is = " << &number << endl;  // Printing the address using reference operator
    return 0;  //Returning and integer
}
```

Output

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/namiirr/SEMESTER
/"1
The Value of the Number is = 10
The Address of the Number is = 0x7ffdec5d7cf4
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

code No 2

2.cpp > main()

```cpp
#include <iostream>     //  Including the header file input output stream
using namespace std;    //  Including the std to use cout only

int main()   // Main Function that will return an integer
{
    int varOne = 3;   // Initaling the varone with 3
    int varTwo = 5;   // Initaling the varTwo with 5
    int varThree = 45;    // Initaling the varthree with 45
    cout << "The VarOne has a Address:  " << &varOne << endl;   // Printing the Address using derefrence operator
    cout << "The VarTwo has a Address:  " << &varTwo << endl;   // Printing the Address using derefrence operator
    cout << "The VarThree has a Address:  " << &varThree << endl;   // Printing the Address using derefrence operator
    return 0;   //Returning an integer
}
```

Output

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/namiirr/SEMESTERno2/oop_lab/lab_
/"2
The VarOne has a Address:  0x7fffc74e74fc
The VarTwo has a Address:  0x7fffc74e7500
The VarThree has a Address:  0x7fffc74e7504
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

COd e

1.cpp > ...

```cpp
#include <iostream> // Including the INput output stream to use input output functions
using namespace std;    // Using std to use the cout without std::cout

int main()      // Main function that wil return the integer value
{
    int array[5] = {2, 4, 6, 8, 10};    // Integer Array of 5 elements
    int *aptr;  // Integer Pointer to store the integer address
    aptr = array;   // array is pointin to the array[0]
    cout << "The Addres of the array is:    " << &array[0] << endl; // Printing the address of array[0] element
    cout << "The Address of the aptr is:    " << aptr << endl;  // Printing the address that have the aptr
    cout << "The Value of the aptr is:  " << array[0] << endl;  // Printing the 0 elemet addrees
    cout << "The Value of the aptr is:  " << *aptr << endl; // Prining the value that aptr pointing
    return 0;   //Returning the integer value
}
```

Output

```
namiirr@hoonnete:~/SEMESTERno2/OOP(object oriented programmin
&& g++ 1.cpp -o 1 && "/home/namiirr/SEMESTERno2/OOP(object or
The Addres of the array is:    0x7ffd9b31b850
The Address of the aptr is:    0x7ffd9b31b850
The Value of the aptr is:  2
The Value of the aptr is:  2
namiirr@hoonnete:~/SEMESTERno2/OOP(object oriented programmin
```

Code No 3

3.cpp > main()

```cpp
#include <iostream> //  Including the header file input output stream
using namespace std;      //  Including the std to use cout only

int main()  // Main Function that will return an integer
{
    int num = 10;   // Declaring the variable with initial value 10
    int *ptr;   // An integer pointer that will hold the address of the integer
    ptr = &num;  // Storing the Address of the num in ptr
    cout << "The Number is:  " << num << endl;  // Printing the actual value of the number
    cout << "The Address of the Number is (&num):   " << &num << endl;  //Printing the Address of the num using the derefernce operator
    cout << "The Address through pointer is :   " << ptr << endl;  // Printing the Address using pointer
    cout << "The Value Getting using pointer :  " << *ptr << endl;  //Printing the Value using Pointer
    return 0;   // Returning the Integer from main Function
}
```

Output

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/namiirr/SEMESTERno2/oop_lab/lab_08/" &&
The Number is:  10
The Address of the Number is (&num):   0x7ffc9cc7fc3c
The Address through pointer is :   0x7ffc9cc7fc3c
The Value Getting using pointer :  10
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

CODE NO 4

4.cpp > main()

```cpp
#include <iostream>   //Including the Header file input output stream
using namespace std;  // Picking the cout from std to use it

int main()  //Main Function which will return the integer
{
    int *pc, c;  // Declaring the pointer the integer
    c = 5;   // Giving the c of value of 5
    cout << "The Address of the Variable c in Ram:  " << &c << endl; // Printing the Address of c
    cout << "The Value of c stored in Ram:   " << c << endl << endl;  // printing the value of the c

    pc = &c;  // Giving the address to the pointer pc
    cout << "The Address of the pc holds in the memory is:  " << pc << endl;  // Printing the Address
    cout << "The value of the pc holds:  " << *pc << endl << endl;  //Printing the Value from Address

    c = 11;  //Changing the Value of the c
    cout << "The Address of the c now:  " << pc << endl; // Printing the Address Again
    cout << "The Value pc is holding in the ram is: " << *pc << endl << endl; // Printing the value from Address

    *pc = 45;  //Changing the Value from Address
    cout << "The Address of the c in Ram(&c):   " << &pc << endl;  //Printing the Address
    cout << "The Value of the c Now:     " << c << endl << endl << endl;  //Printing the Value of c
    return 0;
}
```

OUTPUT

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/namiirr/SEMESTER
The Address of the Variable c in Ram:  0x7ffea2e8d71c
The Value of c stored in Ram:   5

The Address of the pc holds in the memory is:  0x7ffea2e8d71c
The value of the pc holds:  5

The Address of the c now:  0x7ffea2e8d71c
The Value pc is holding in the ram is: 11

The Address of the c in Ram(&c):   0x7ffea2e8d720
The Value of the c Now:     45


namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

Code No 5

5.cpp > main()

```cpp
#include <iostream>    //Including the input output Stream header file
using namespace std;    // using namespace std to use the cout with out using std::cout

int main()  //Our main function that will return an integer value
{
    int *ptr, x;   // Making an integer pointer and int variable that can get int value
    x = 10;     // Giving x a int value of 10
    ptr = &x;  // Giving the Address of x to a pointer
    cout << "The Value of the x:    " << x << endl; //Printing the Value of x
    cout << "The Value of the *ptr: " << *ptr << endl;  //Printing the value of the pointer
    cout << "The Value of the ptr:  " << ptr << endl;   //printing the adddress that is obtained by x in Ram
    cout << "Value of the &x:   " << &x << endl;        //Printing address using dereference operator
    return 0;   //Returning an Integer
}
```

OUTPUT

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/nami
The Value of the x:     10
The Value of the *ptr: 10
The Value of the ptr:  0x7ffd971253cc
Value of the &x:    0x7ffd971253cc
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

COde No 6

op > main()

```cpp
#include <iostream>  //Including the header file input output stream
using namespace std;  //USing the std to use cout with std::cout

int main()   //Main Function from where an integer is returned and execution starts from here
{
    int *ptr = NULL;  //Intializing the Pointer with the NULL
    cout << "The Value of the Pointer after initialize: " << ptr << endl;  //Printing the Value of the ptr
    return 0;   //Returning the Integer Value
}
```

OUTPUT

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ co
The Value of the Pointer after initialize: 0
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

CODE NO 7

7.cpp > main()

```cpp
#include <iostream>   // Including the Header file Input Output Stream
using namespace std;  // USing std to use cout without writing every time std::cout

int main()  //Main function that will return an Integer Value
{
    void *ptrOne, *ptrTwo, *ptrThree, *ptrFour;     // Pointer of type void that can hold address of any data type
    int i; char c; float f; double d;   // Making Variable of Different data type
    cout << "Enter the Integer Value:   ";      // Asking user to Enter an Integer Value
    cin >> i;   // Storing Input in i
    cout << "Enter the Character Value: " ; // Asking user to Enter an Character
    cin >> c;  //Storing that character in c
    cout << "Enter the Float Value: ";  //Asking user to Enter the Float Value
    cin >> f;  //Storing that float value in f
    cout << "Enter the Double Value:    ";      // Asking user to Enter the Double
    cin >> d;   // Storing user input in d using Extraction operator
    ptrOne = &i;    // Storing the Address in pointer
    ptrTwo = &c;     // Storing the Address in pointer
    ptrThree = &f;       // Storing the Address in pointer
    ptrFour = &d;        // Storing the Address in pointer

    cout << "The Integer has a Address: " << ptrOne << endl;        //Printing the Address Using Pointer
    cout << "The character has a Address: " << ptrTwo << endl;      //Printing the Address Using Pointer
    cout << "The Float has a Address: " << ptrThree << endl;        //Printing the Address Using Pointer
    cout << "The Double has a Address: " << ptrFour << endl;        //Printing the Address Using Pointer

    return 0;  //Returning an Integer Value from Main Function
}
```

OUTPUT

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/namii
Enter the Integer Value:   5
Enter the Character Value: c
Enter the Float Value: 4.5
Enter the Double Value:    4.56
The Integer has a Address: 0x7fffdcf81ef8
The character has a Address: 0x7fffdcf81ef7
The Float has a Address: 0x7fffdcf81efc
The Double has a Address: 0x7fffdcf81f00
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

CODE NO 8

8.cpp > main()

```cpp
#include <iostream>   //Including the Header file of input output stream
using namespace std;    // using std to use cout with writing every time std::cout

int main()  //Main Function that will return an Integer Value
{
    int value = 7;       // variable of Data type int and has a value 7
    int *ptr = &value;       // Pointer holding the address of the value

    cout << ptr << "\n";          // Printing the address
    cout << ptr + 1 << "\n";    // Printing the address 1 next mean 4 byte next
    cout << ptr + 2 << "\n";        //Printing the Address 2 next 8 byte next
    cout << ptr + 3 << "\n";    //Printing the Address 3 next 12 byte
    return 0;   //Returning an Integer Value from the main function
}
```

OUTPUT

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_0
0x7fff32a1fd4c
0x7fff32a1fd50
0x7fff32a1fd54
0x7fff32a1fd58
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_0
```

CODE NO 9

9.cpp > main()

```cpp
#include <iostream>          //Including the Header file of input output stream
using namespace std;         // Using std to use cout with out writing std::cout

int main()  //Main Function that will return an Integer Value
{
    int a = 10, *b, *c;  // Making 2 Integer Pointer Varible and int variable
    b = &a;          // Giving Pointer the address of a
    c = b;       // Giving the Address of a that is stored in b to another variable c
    cout << *b << "\t" << *c  << endl;      // Printing the value that is stored in the integer pointer
    return 0;        // Returning the Integer value from the main function
}
```

OUTPUT

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
cd "/home/namiirr/SEMESTERno2/oop_lab/lab_08/" && g++ 9.cpp -o 9 &&
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/namiirr/SEM
10      10
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

CODE NO 10

10.cpp > main()

```cpp
#include <iostream>  // Including the Header file input output stream
using namespace std;    // using std to use cout without writing the std::cout

int main()       //Main function that will return an integer value
{
    int b[3];   // Array of Integer and that has 3 element
    int *a = b; // Storing the address of b[0] in pointer a
    cout << a << endl;  // Printing the address of b[0]
    a++;  // Moving one next in Ram
    cout << a << endl;       // Printing address after One Increment
    a--;  // Subtracting 1
    cout << a << endl;  // Again printing the address after one subtract
    a = a + 2;  // Moving 8 bytes more from present address
    cout << a << endl;  // Again printing the address
    return 0;   // Returning the Integer Value
}
```

OUTPUT

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/namiirr
0x7fffec90fa9c
0x7fffec90faa0
0x7fffec90fa9c
0x7fffec90faa4
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

CODE NO 11

11.cpp > fun(int, int)

```cpp
#include <iostream>     //Including the Header file of input output stream
using namespace std;        //Using the std to use cout without std::cout

void fun(int, int);     // Fucntion that will return nothing and given two values and both are integers
int main()      // Our Main Function that will return an Integer
{
    int A = 10, B = 20;     // Two Varibles of Data Type int and Values os 10 and 20
    cout << "Values Before Giving to the Function" << endl;     // Printing the message on console
    cout << "A = " << A << endl;    // Printing the Value of A on console
    cout << "B = " << B << endl;    // Printing the Value of B on console
    fun(A, B);  // Giving the Function Two Parameter A and B
    cout << "Values After Giving to the Function" << endl;  // Printing the message on console
    cout << "A = " << A << endl;    // Printing the Value of A after function Call
    cout << "B = " << B << endl;      // Printing the Value of A after function Call
}

void fun(int X, int Y)   // Fucntion that will return nothing and given two values and both are integers
{
    X = X + 1;  // One Incremented in A
    Y = Y + 1;  // One Incremented in A
}
```

OUTPUT

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/
Values Before Giving to the Function
A = 10
B = 20
Values After Giving to the Function
A = 10
B = 20
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

CODE NO 12

12.cpp > fun(int *, int *)

```cpp
#include <iostream>     // Including the Header file of input output stream
using namespace std;    // using std to use cout with out using the std::cout

void fun(int*, int*);       // Function of Name fun and two input parameter and both are integer pointer
int main()      // Main function that will return an Integer Value
{
    int A = 10, B = 20;     // Two Variables of Data type A and Value of 10 and 20
    cout << "Values Before Giving to the Function" << endl;     // Printing only on console
    cout << "A = " << A << endl;    // Printing The value of A
    cout << "B = " << B << endl;    // Printing The value of B
    fun(&A, &B);    // Giving the Addresses of A and B
    cout << "Values After Giving to the Function" << endl;  // Printing only on console
    cout << "A = " << A << endl;    // Printing the Value of After Function Call
    cout << "B = " << B << endl;   // Printing the Value of After Function Call
}

void fun(int *X, int *Y)        // Function that will return nothing and Given the address of A and B
{
    *X = *X + 1;    // One Increment in A
    *Y = *Y + 1;    // One Increment in B
}
```

OUTPUT

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/namiirr/SE
08/"12
Values Before Giving to the Function
A = 10
B = 20
Values After Giving to the Function
A = 11
B = 21
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

CODE NO 13

13.cpp > main()

```cpp
#include <iostream>     // Including the Header file of Input Output Stream
using namespace std;    // Using std to use cout without std::cout

void Get_Number(int *number)    // Fucntion that will not return anything but given parameter an Address
{
    cout << "Enter Any Number:  ";      // Asking User to Enter the Number
    cin >> *number;     // Storing the Value of user input in number varible using pointer
}

void square(int *number)    // Function that will not return anything and given that address as a parameter
{
    cout << "The Square of the Number using Pointer is = " << (*number) * (*number) << endl;  // Printing the sqaure using pointer
}
int main() // Main Function that will return an Integer Value
{
    int number = 0;     // INtialzing the Number With 0
    Get_Number(&number);    // Passing Value by pass by reference
    square(&number);     // Passing Value by pass by reference
    return 0;   // Returning the Integer Value from the Main Function
}
```

OUTPUT

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/namiir
08/"13
Enter Any Number:  45
The Square of the Number using Pointer is = 2025
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

CODE NO 14

14.cpp > main()

```cpp
#include <iostream> // Including the Header file of input output stream
using namespace std;    // Using the std to use cout not std::cout
int * reference(int n)      //  Function that will return an pointer and Given as a parameter an integer
{
    return &n;      // Returning the address of n
}

int main()  //Main Function that will return an Integer Value
{
    int A = 10;     // Variable A of Data type int
    int *ptr;   // Integer pointer that will hold the address of in
    cout << "The Address of the " << A << "  in the main is = " << &A << endl;  // Printing the address of A
    ptr = reference(A);     // Storing the returned address from function in pointer
    cout << "The Address of the " << A << " in reference is = " << ptr << endl; // Printing the address now
    return 0;   // Returning an Integer Value

}
```

OUTPUT

```
/tmp/NIJqGzk2ZU.o
The Address of the 10  in the main is = 0x7fff2cfd20fc
The Address of the 10 in reference is = 0
```

CODE NO 15

15.cpp > Sum(int, int)

```cpp
#include <iostream>     // Including the header file of input output stream
using namespace std;    // using std to use cout with out std::cout

int Sum(int , int);     // Function that will return an Integer and Given Two parameter of both integer
int (*ptr)(int, int);   // Function that hold the address

int main()      //Main Function that will return an Integer value
{
    int a, b, rs;       // Declaring Three variables of data type of int
    cout << "\nEnter the First Number:  ";      // Enter First Number
    cin >> a;       // Storing the value in a using the extraction operator
    cout << "Enter the Second Number:   ";  // Enter First Number
    cin >> b;        // Storing the value in b using the extraction operator
    ptr = Sum;      // storing the addrss of sum function in ptr
    rs = (*ptr)(a, b);  // Calling the Function using pointer
    cout << "The SUm using pointer is = " << rs << endl;    // Printing the returned value from function
    return 0;       // rETURNING  Integer value from function
}

int Sum(int numOne, int numTwo) // Function that will return an Integer and Given Two parameter of both integer
{
    return numOne + numTwo; // return the sum of Two Number
}
```

OUTPUT

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/na
08/"15

Enter the First Number:  5
Enter the Second Number:   5
The SUm using pointer is = 10
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

CODE NO 16

16.cpp > main()

```cpp
#include <iostream>  // Including the Header file for input output stream
using namespace std;    // using std to use cout not std::cout

int main()  //·Main·Fucntion·that·will·return·an·Integer·Value
{
    int vals[] = {4, 7, 10};     // Array of integers
    cout << vals << endl;        // Printing the address of val[0]
    cout << vals[0] << endl;          // Printing the value of val[0]
    return 0;        //returning an Integer from main function
}
```

OUTPUT

```
/tmp/GkoTc7GxSV.o
0x7ffcb6004a8c
4
/tmp/GkoTc7GxSV.o
0x7ffebd233b5c
4
```

CODE NO 17

17.cpp > main()

```cpp
#include <iostream>     // Including the header file of input output stream
using namespace std;    // using std to use cout not std::cout

int main() // Main Fucntion that will return an Integer Value
{
    short numbers[] = {2, 4, 6, 8, 10};  // array of short that take 2 bytes
    cout << "The First Element using pointer is = " << *numbers << endl; //Printing the numbers[0] usig pointer
    return 0;   // Returning the Integer from main Function
}
```

OUTPUT

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/namiirr/SE
08/"17
The First Element using pointer is = 2
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

CODE NO 18

18.cpp > main()

```cpp
#include <iostream>          // Including the input output stream header file
using namespace std;         // using std to use cout not to use std::cout

int main()       // Main function that will return an Integer Value
{
    int array[5] = {2, 4, 6, 8, 10};         // Array of 5 elements and datatype of int
    int *ptr;   // Declaring the integer pointer
    ptr = array;    // Giving the pointer the address
    cout << "The Address of the First Index = " << &array[0] << endl;        // Printing the address of array 0 elemetns
    cout << "The Address of the First Index using pointer is = " << ptr << endl;    // Printing the address using the pointer
    cout << "The First Index of the Array is = " << array[0] << endl;        // Printing the array[0] element using the indexi
    cout << "The First Index of the Array using pointer is = " << *ptr << endl; // Printing the value using the pointer
    return 0;   // Returning the integer value from the main function
}
```

OUTPUT

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_06$ cd "/home/namiirr/SE
08/"18
The Address of the First Index = 0x7ffc38ead3a0
The Address of the First Index using pointer is = 0x7ffc38ead3a0
The First Index of the Array is = 2
The First Index of the Array using pointer is = 2
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_06$
```

CODE NO 19

19.cpp > main()

```cpp
#include <iostream>      // Including the header file input output stream
using namespace std;     // Using std to use cout not to use std::cout

int main()  //returning the integer value from the function
{
    int y[10];  // Array of 10 elements
    int *yPointer;  // Declaring the Integer Pointer
    yPointer = y;   // Giving the address to pointer

    cout << yPointer << endl;   // Printing the address
    yPointer++; // 1 added in the address
    cout << yPointer + 1 << endl;   // Agian printing the address with one increase
    return 0;
}
```

OUTPUT

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd
08/"19
0x7ffe64087490
0x7ffe64087498
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

CODE NO 20

20.cpp > main()

```cpp
#include <iostream> // Including the header file input output stream
using namespace std;    // using std to use cout not to use std::cout

int main()      // Main function that will return in integer value
{
    int array[5] = {2, 4, 6, 8, 10};        // Array of 5 elements of data type int
    int *arrayPointer;      // Declaring the pointer
    arrayPointer = array;   // Giving the Address to the pointer

    cout << "The Address of the First Index of the Array is = " << &array[0] << endl;       // Printing the first Index address
    cout << "The Array Pointer is = " << arrayPointer << endl;      // Printing the address using the pointer
    cout << "The First Index = " << array[0] << endl;       // Printing the value of zero index
    cout << "The Array First Index through Pointer = " << *arrayPointer << endl;    // printing the value
    return 0;   // Returning an Integer from our main function
}
```

OUTPUT

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/namiirr/SEMES
08/"20
The Address of the First Index of the Array is = 0x7ffff9a5bb10
The Array Pointer is = 0x7ffff9a5bb10
The First Index = 2
The Array First Index through Pointer = 2
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

CODE NO 21

21.cpp > main()

```cpp
#include <iostream> // Including the header file input output stream
using namespace std;    // using std to use cout not to use std::cout

int main()      // Main function that will return in integer value
{
    float array[5];     //  Array of data type float of 5 elements
    float *ptr; // Pointer that store the address of float
    cout << "Displaying the Address of the Array using For Loop and Using the reference Operator(&)" << endl;   // Message
    for (int i = 0; i < 5; i++) // For loop that will go up to 4
    {
        cout << "&a[" << i << "]" << "  " << &array[i] << endl; // Printing the address of four elements
    }
    ptr = array;    // Giving the address to the pointer

     cout << "Displaying the Address of the Array using For Loop and Using the Indirection Operator (&)" << endl;   // Message
     for (int i = 0; i < 5; i++)        // Printing the address of four elements
    {
        cout << "*a[" << i << "]" << "  " << ptr + i << endl;   // Printing the address using the pointer
    }
}
```

OUTPUT

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/namiirr/SEMESTERno2/oop_lab/lab_08/" && g++ 21
08/"21
Displaying the Address of the Array using For Loop and Using the reference Operator(&)
&a[0]  0x7ffd0bb2cf40
&a[1]  0x7ffd0bb2cf44
&a[2]  0x7ffd0bb2cf48
&a[3]  0x7ffd0bb2cf4c
&a[4]  0x7ffd0bb2cf50
Displaying the Address of the Array using For Loop and Using the Indirection Operator (&)
*a[0]  0x7ffd0bb2cf40
*a[1]  0x7ffd0bb2cf44
*a[2]  0x7ffd0bb2cf48
*a[3]  0x7ffd0bb2cf4c
*a[4]  0x7ffd0bb2cf50
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$
```

CODE NO 22

22.cpp > main()

```cpp
#include <iostream> // Including the header file input output stream
using namespace std;    // using std to use cout not to use std::cout

int main()      // Main function that will return in integer value
{
    int array[] = {78, 45, 56, 45, 87, 98, 12, 32}; // Initializing the array of int values
    int *ptr;   // Integer pointer
    cout << "Values in the Array" << endl;  // Message
    for (int i = 0; i < 8; i++) // For loop that will go up to 7 elements in    array
    {
        cout << *ptr << "    ";  // Printing the address of the values in the array
        ptr++;  // Moving the pointer 1 next
    }
    return 0;   // Returning the Integer value from the main funxtion
}
```

OUTPUT

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_08$ cd "/home/namiirr/SEMESTERno2/oop_lab/lab_08/" && g++ 22.cpp -o 22 && "/h
08/"22
Values in the Array
29590344   1977432392   -998029078   1096637192   1096630620   -1017167522   254699110   33823   namiirr@hoonnete:~/SEME
```

There is an availa

CODE NO 23

23.cpp > main()

```cpp
#include <iostream> // Including the header file input output stream
using namespace std;    // using std to use cout not to use std::cout

int main()      // Main function that will return in integer value
{
    int numberOne = 10, numberTwo = 20, numberThree = 30;   // three variables of int data type with values 10, 20, 30
    int *array[3];      // Array of the pointer array that will store address in it
    array[0] = &numberOne;      // At 0 index numberOne address
    array[1] = &numberTwo;  // At 1 index numberTwo address
    array[2] = &numberThree;    // At 2 index numberTwo address
    for (int i = 0; i < 3; i++) // For loop that will go up to 2
    {
        cout << *array[i] << endl;      // Printing the value that is stored in array index by index
    }
    return 0;   // Returning an Integer value form the main function
}
```

OUTPUT

```
miirr/SEMESTERno2/oop_lab/lab_08/" && g++ 23
10
20
30
namiirr@hoonnete:~/SEMESTERno2/oop_lab/lab_0
```

Code No 24

24.cpp > main()

```cpp
#include <iostream> // Including the header file input output stream
using namespace std;    // using std to use cout not to use std::cout

int main()      // Main function that will return in integer value
{
    char *a = "Hello";  // Giving the character to a
    cout << a << endl;  // Printing the value of a
    cout << &a << endl; // Printing the address of a
    cout << *a << endl; // printing the pointing value of a
    cout << a[0] << endl;   // Printing a[0] index
    cout << a++ << endl;    // Incrementing 1
    cout << *a++ << endl;   // incrementing 1 in pointer
    return 0;   // Returning an integer value in main function
}
```

OUTPUT

Output

```
/tmp/ZNrsZslo8a.o
Hello
0x7ffeb0c5fdd0
H
H
Hello
e
```

ROLL NO: 20P-0165

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Section : 2A