Victoria University of Bangladesh

Course Title	:	*Structured Programming Language*
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Submit By	:	**Mst. Shahanaj Parvin**
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Submitted To	:	**Renea Chowdhury Shormi**
Id Number	:	**2519150021**
Program	:	*CSIT (Day)*

@ Function Declarations : A function declaration tells the complier about a function's name, return type, perameters. A functions definition provides the actual body of the function.

```
Void /int Fun ( ) {
Print f (" hello world ") ;
}
```

ⓑ In order to declare function, firstly we have to declare the return type then the name of the function after words we need to put parameters and finally a pair of curly brackets. See the following example.

R return type   name

↓   ↓   ↙ Parameter

Void /int   ADD ()

} → curly bracket

Answer to the question number: 1/(c)

The return type will be int and the function will receive one Froctional or float number and another one will integer number.

Answer to the question number : 02

(a)

An annay is a collection of similar data elements sorted at contiguous memory locations.

Declaration : First at all, we need to declare the type of annay and then the name of the annay and then we have to put the number how many elements it can be sorted.

For an example,

$$\text{int} \quad \text{list} \quad [5];$$

$$\downarrow \qquad \downarrow$$

type   name

Array Initialization :

$$\text{int list } [6] = \{1, 2, 3, 4, 5\};$$

Answer to the question number : 2

(b)

a[2][0] value is 30

a[2][1] values is 40

a[1][1] value is 24

<u>Answer to the question number: 02</u>

Ⓒ

The dimensional Array: The two dimensional array of can be defined as an array of arrays. The 2D array is organized as matrices which can be represented as the collection of rows and columns. However, 2D arrays are created to implement a relational database lookalike data struc-ture. It provides ease of holding the bulk of data at once. which can be passed to any number of functions whereas required.

```
int X [5] [5];
```

Multi Dimension Arrays :

A multi dimension array can be turned as an array of arrays that stores homegeneous data intabular form. Data in multi - dimensional are sorted in now - major order.

    int x [5] [5] [5] ;

Answer to the question number : 2

(d)

Null Pointer : At a very high level we can think of null as a null pointer which is used in c for various purposes.

    int * pInt = Null ;

<u>Answer to the question number : 03</u>

ⓐ

Structure : A structure can be defined as a single entity holding variable of different data types that are logically related to each other. All the data members inside a structure are accessible to the functions defined outside the structure. To access the data members in the main function, you need to create a structure variable. Syntax to define a structure in c

```
Struct    Struct Name
{
    // Structure definition

    Data - type 1 member - name 1 ;
    Data - type 2 member - name 2 ;
    Data - type 2 member - name 2 ;
};
```

Example :

```
struct    My structure  {  // structure
    declaration
        int Mynum ;         // member
(int variable)

        char my letter ;  // member
(char variable)

}; // End the structure with
                a semi-colon .
```

Answer to the question number : 3
(b)

Steps to Read a file :

\# Open a file using the function of open ()
and store the reference of the file

In   a file pointer.

⇒ Read contents of the file using any of
  these functions f get (), fget (), fscan () on
  f read ().

       f get e ()
       int fget e (FILE x ptn);

Whole line from text file :

```
# include <stdio.h>
void main () {
int line Num = 0;
char line content [100];
Print f ("%.s\n", line content);
}
```

Answer to the question number : 3

©

A file is a collection of data stored in one
until ; identified by a filename. It can be
a document, picture, audio or video
stream, data library, Application or other
collection of data.

The fopen () function is used to create
a file or open an existing file :

~~fp = fopen () function is used to create
a file or open an existing file .~~

fp = fopen (const char filename, const
char mode);

To close a file, use the member

function close ().

xysl. Close ();

The close function takes no parameters and returns no values.

<u>Answer to the question number : 3</u>

(d)

File handling is one of the most important topics in the C language. In case of file handling, file opening modes play an important role in executing these programs. There are general types of modes available in the opening modes. Each of them will discuss in our article.

```
# include <stdio.h>
# include <stdio.h>
    int main ()
    {int n ;
      file * Fp ;
```

```c
fp = fopen ('write.text", "w"); // file opening mode
    if (fp = NULL)
    { print f ("File not found))');
        exit (1) };
    }
        n = 2354;
    f print F (fp, %d , n) }; User of fprint f.U }
Fclose (fp); // File is closed.
    return 0;
    }
```

Answer to the question number : 05

A pointer is supremely useful in c programming. They are extremely efficient to use which is what makes their popular. we need to declare pointers to access that particular address on to get the reference to the variable declaried pointers are used to get a faster execution time.

Syntax :

datatype * pointer —variable name

Example :

int * ptr 1 ;

Explanation :

For pointer declaration in c, you much make sure that, the data type you're using is a valid c. Data type and that the pointer and the variable to which the pointer variable points must have the same data-type.

For example, if ~~we~~ you want to pointer to point to a variable of data type int, ie. int var = 5 then the pointer must also be of data type 'int' i, e, int * ptr =v

The * symbol indicates that the variable is a pointer. To declare a variable as a pointer, you must prefix id with *.

In the example above, we have done a pointer declaration and named ptr a with the data type Integer.

Answer to the question number 8 5

(b)

① strcpy : strcpy () function is used to copy a character variable.

Syntax:

Chan City [15]

Strcpy (city, "Bangladesh")

This will assign the string "Bangladesh" to the character variable city.

[Note] : That character value like city = "Bangladesh" 5' can not assign In C language.

(ii) strlen () function :

strlen () function is used to find the length
a character string.

Syntax:

int n ;

char st [20] = "Bangladesh" ;

n = strlen (st) ;

This will remain length of the string 0:10
which is assigned to an integer variable n.

[Note]: That the null character '\0' a.

variable at the end of a string is
not counted.

(iii) strstr(): The strstr() function returns pointer to the first accurrence of the matched string in the given string. It is used to return substring from match till the last character.

Syntax:

Char # strstr (const char #string , const char rmatch)

© Answer: 258'44*9910