**Labsheet-7**

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**1.**

**Pointer**: Pointer is a variable that is pointing to another variable and it can change others variable’s values by pointing in C programming. It also stores the address of other variables.

**Pointer Advantage:**

* It increases the execution speed of a program.
* Easy to use array elements by pointing.
* Pointer can pass any array from a function to another function.
* It reduces complexity and also can shorten the program's length.
* It supports dynamics memory allocation.

**2.**

**a.**

int student[10]={1,2,3,4,5,6,7,8,9,10};

int \*pi=student;

**b.**

#include <stdio.h>

#include <stdlib.h>

int \*abc(char \*a);

int main()

{

char a[]={"Ashraful"};

int \*(\*p)(char\*);

p = abc(a);

return 0;

}

int \*abc(char \*r)

{

int \*c;

return c;

}

**3.**

When pass just variables value that’s called call by value and when pass variables addresses that’s called call by reference.

Example:

**Call by value:**

#include <stdio.h>

#include <stdlib.h>

int cl(int);

int main()

{

int x=1;

x+=cl(x); //just passes value of x which is 1.

printf("%d",x);

return 0;

}

int cl(int a)

{

a++;

return a;

}

**Call by reference:**

#include <stdio.h>

#include <stdlib.h>

void cl(int\*);

int main()

{

int x=1;

cl(&x); //here passed address of x

printf("%d",x);

return 0;

}

void cl(int \*a)

{

\*a=3; // 3 putted where a is pointing.

}

**4.**

#include <stdio.h>

#include <stdlib.h>

void area(float\* r);

int main()

{

float r;

printf("Please enter the radius of circle: ");

scanf("%f", &r);

area(&r);

return 0;

}

void area(float \*r)

{

const float pi = 3.1416;

float A,C;

A = (pi\*(\*r)\*(\*r));

C= (2\*(pi)\*(\*r));

printf("The area of circle: %.2f\n",A);

printf("The perimeter of circle: %.2f",C);

}