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);

}
```