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Networks Lab 1
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1. Write a C program to swap the content of 2 variables using pointer.

Code:

```
#include<stdio.h>

int main() {

	int a = 1, b = 2;
	printf("a = %d, b = %d\n", a, b);

	int *aptr = &a;
	int *bptr = &b;

	int temp = *aptr;
	*aptr = *bptr;
	*bptr = temp;

	printf("a = %d, b = %d\n", a, b);

	return 0;
}
```

Output:

```
a = 1, b = 2
a = 2, b = 1
[Finished in 3.2s]
```

2. Write a C program to assign values to each members of the following structure. Pass the populated structure to a function Using call-by address and print the value of each member of the structure with in that function.
struct info{
int roll_no;
char name[50];
float CGPA;
}

Code:

```
#include<stdio.h>
#include<string.h>

struct info {
	int roll_no;
	char name[50];
	float CGPA;
};

void print(struct info *stud) {
	printf("Roll Number: %d\n", stud->roll_no);
	printf("Name: %s\n", stud->name);
	printf("CGPA: %.2f\n", stud->CGPA);

}


int main() {

	struct info stud;

	stud.roll_no = 1905387;
	strcpy(stud.name , "Hamdan");
	stud.CGPA = 9.60;

	print(&stud);

	return 0;
}
```

Output:

```
Roll Number: 1905387
Name: Hamdan
CGPA: 9.60
[Finished in 0.7s]
```

3. Write a C program to extract each byte from a given number and store them in separate character variables and print the content of those variables

Code:

```
#include<stdio.h>

int main() {

	int a = 256;
	int mask = 0xff;
	unsigned char arr[4];

	for (int i = 0; i < 4; i++) {
		arr[i] = a & mask;
		a >>= 8;
	}

	for (int i = 3; i >= 0; i--) {
		printf("%d, ", arr[i]);
	}

	return 0;
}
```

Output:

```
0, 0, 1, 0, [Finished in 0.6s]
```

4. Write a C program to check whether the Host machine is in Little Endian or Big Endian.

Code:

```
#include<stdio.h>

int main()
{
	int i = 1;
	char *c = (char*)&i;
	if (*c == 1)
		printf("Little endian\n");
	else
		printf("Big endian\n");
	return 0;
}
```

Output: