พื้นฐานภาษา C

1. การแสดงข้อความ

```
#include<stdio.h>
int main()
{
	printf("message");
	return 0;
}
```

---

2. การแสดงข้อความจากตัวแปร

```
#include<stdio.h>
int main()
{
	int	a = 100;
	float	b = 2.2;
	char	c = 'c';
	printf("message %d %f %c",a,b,c);
	return 0;
}
```

---

3. การรับข้อความ

```
#include<stdio.h>
int main()
{
	int a;
	scanf("%d",&a);
	printf("%d",a);
	return 0;
}
```

---

4. ตัวแปร Local ใช้ได้เฉพาะภายในฟังก์ชัน

```
#include<stdio.h>
int main()
{
	int  v = 10;
	printf("%d",v);
}
```

---

5. ตัวแปร Global ใช้ได้หมด

```
#include<stdio.h>
int  v = 10;
int main()
{
        printf("%d",v);
}
```

---

6. เงื่อนไข

```
#include<stdio.h>
int main()
{
        int j=25;
        if(j>10 && j <= 20)          { printf("1\n"); }
        else if(j>20)                { printf("2\n "); }
        else                         { printf("3\n "); }
}
```

---

7. วนซ้ำ

```
#include<stdio.h>
int main()
{
        int i;
        for(i=0;i<10;i++)
        {
          printf("%d\n",i);
        }
        return 0;
}
```

---

8. Comment

```
/* message */
//message
```

---

9. Array 1 dimension

```
#include<stdio.h>
int main()
{
	int a[5] = { 10, 20, 30,11,54 };
	int b[5];
	a[2] = 44;
	printf("%d\n", a[2]);
	return 0;
}
```

Index	0	1	2	3	4
Value					

---

10. Array 2 dimension

```
#include<stdio.h>
int main()
{
	int b[2][2] = { {16, 2}, {77, 40} };
	int b[2][2];
	b[1][0] = 55;
	printf("%d\n", b[1][0]);
	return 0;
}
```

Index	0	1
0		
1		

---

11 ขนาด Array

```
int arr[] = {10, 9, 8, 7, 6, 5, 4, 3, 2, 1};
int size = sizeof(arr) / sizeof(arr[0]);
```

---

12. Write File

```
#include<stdio.h>
int main()
{
   int num;
   FILE *f = fopen("d:\\a.txt","w");
   scanf("%d",&num);
   fprintf(f,"%d",num);
   fclose(f);

   return 0;
}
```

---

13. Read File

```
#include<stdio.h>
int main()
{
	int num;
	FILE *fptr = fopen("d:\\a.txt","r");
	fscanf(fptr,"%d", &num);
	printf("%d", num);
	fclose(fptr);

	return 0;
}
```

---

14. String

```
#include<stdio.h>
int main()
{
	char str[] = "Geeks";
	printf("%s\n", str);
	strcpy(str,"change");
	printf("%s\n", str);
	return 0;
}
```

---

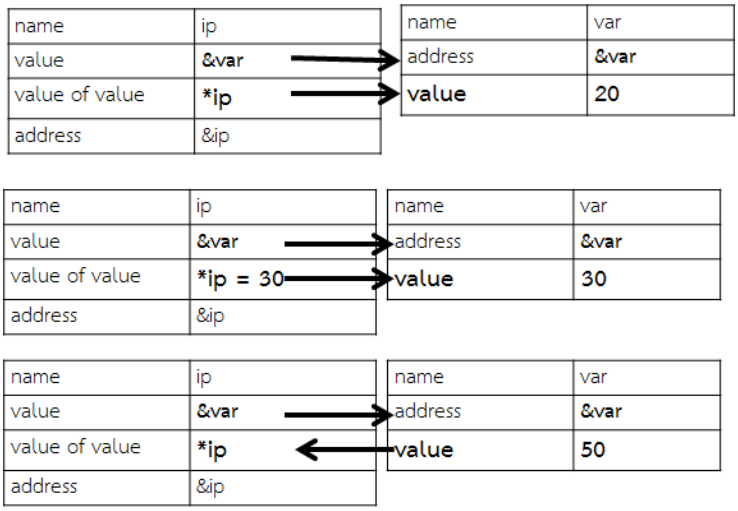
15. แปลง STRING, INT, FLOAT

```
#include<stdio.h>
int main()
{
	int i = atoi("20");
	printf("%d\n",i);

	char buffer [50];
	itoa(250, buffer,10);
	printf("%s\n",buffer);
	return 0;
}
```

---

16. Pointer




```
#include<stdio.h>
int main()
{
	int  *ip;
	int  var = 20;
	printf("%d\n",var);

	ip = &var;
	printf("%d\n",*ip);
	printf("%d\n",var);
	printf("%x\n",ip);
	printf("%x\n",&var);
	printf("%x\n",&ip);

	*ip = 30;
	printf("%d\n",*ip);
	printf("%d\n",var);

	var = 50;
	printf("%d\n",*ip);
	printf("%d\n",var);

	return 0;
}
```

---

17. Function

```
#include<stdio.h>
void f1()
{
	printf("me\n");
}
int f2()
{
	return 10;
}
int f3(float a, float b)
{
	float c = a * b;
	return c;
}
int main()
{
	f1();
	printf("%d\n",f2());
	printf("%d\n",f3(5,4));
	return 0;
}
```

---

18. Pass by Reference and Pass by Value

```
#include<stdio.h>
void f4(int *a)
{
	*a = 50;
	printf("%d\n",*a);
}
void f5(int a)
{
	a = 200;
	printf("%d\n",a);
}
int main()
{
	int b = 44;
	printf("%d\n",b);
	f4(&b);
	printf("%d\n",b);

	b = 44;
	printf("%d\n",b);
	f5(b);
	printf("%d\n",b);
	return 0;
}
```

---

19. STRUCT

```
#include<stdio.h>
typedef struct B
{
	int i;
	char m[10];
} tB;
void print(tB o)
{
	printf("%d %s \n",o.i,o.m);
}
int main()
{
	tB b1, *b5;

	b1.i = 10;
	strcpy(b1.m,"test");
	print(b1);

	b5 = &b1;
	(*b5).i = 10;
	strcpy( b5->m, "test111");
	print(b1);
	print( (*b5) );
}
```