[H] Point out the errors, if any, in the following programs:

(a)
```
main( )
{
    int   tag = 0, code = 1 ;
    if ( tag == 0 )
        ( code > 1 ? printf ( "\nHello" ) ? printf ( "\nHi" ) ) ;
    else
        printf ( "\nHello Hi !!" ) ;
}
```

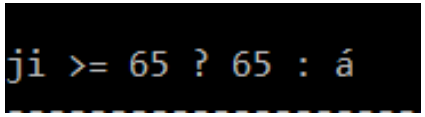
(b)
```
main( )
{
    int   ji = 65 ;
    printf ( "\nji >= 65 ? %d : %c", ji ) ;
}
```

(c)
```
main( )
{
    int   i = 10, j ;
    i >= 5 ? ( j = 10 ) : ( j = 15 ) ;
    printf ( "\n%d %d", i, j ) ;
}
```

[H] Point out the errors, if any, in the following programs:

(a)
```
main( )
{
    int   tag = 0, code = 1 ;
    if ( tag == 0 )
        ( code > 1 ? printf ( "\nHello" ) : printf ( "\nHi" ) ) ;
    else
        printf ( "\nHello Hi !!" ) ;
}
```

(b)
```
main( )
{
    int   ji = 65 ;
    printf ( "\nji >= 65 ? %d : %c", ji ) ;
}
```




```
ji >= 65 ? printf("%d",ji) : printf("%c", ji ) ;
```

(c)
```
main( )
{
    int   i = 10, j ;
    i >= 5 ? ( j = 10 ) : ( j = 15 ) ;
    printf ( "\n%d %d", i, j ) ;
}
```

No Error
O/p would be 10, 10

(d)
```
main( )
{
    int a = 5 , b = 6 ;
    ( a == b ? printf( "%d",a) ) ;
}
```

(e)
```
main( )
{
    int n = 9 ;
    ( n == 9 ? printf( "You are correct" ) ; : printf( "You are wrong" ) ;) ;
}
```

(f)
```
main( )
{
    int   kk = 65 ,ll ;
    ll = ( kk == 65 : printf ( "\n kk is equal to 65" ) : printf ( "\n kk is not
equal to 65" ) ) ;
    printf( "%d", ll ) ;
}
```

(g)
```
main( )
{
    int   x = 10, y = 20 ;
    x == 20 && y != 10 ? printf( "True" ) : printf( "False" ) ;
}
```

(d)
```
main( )
{
    int a = 5 , b = 6 ;
    ( a == b ? printf( "%d",a) ) ;
}
```

(e)
```
main( )
{
    int n = 9 ;
    ( n == 9 ? printf( "You are correct" ) ; : printf( "You are wrong" ) ;) ;
}
```

(f)
```
main( )
{
    int   kk = 65 ,ll ;
    ll = ( kk == 65 : printf ( "\n kk is equal to 65" ) : printf ( "\n kk is not
equal to 65" ) ) ;
    printf( "%d", ll ) ;
}
```

(g)
```
main( )
{
    int   x = 10, y = 20 ;
    x == 20 && y != 10 ? printf( "True" ) : printf( "False" ) ;
}
```

No error
O/p would be False

[I] Rewrite the following programs using conditional operators.

(a)
```
main( )
{
    int   x, min, max ;
    scanf ( "\n%d %d", &max, &x ) ;
    if ( x > max )
          max = x ;
    else
          min = x ;
}
```

[I] Rewrite the following programs using conditional operators.

(a)
```
main( )
{
    int   x, min, max ;
    scanf ( "\n%d %d", &max, &x ) ;
    if ( x > max )
        max = x ;
    else
        min = x ;
}
```

```
main()
{
int x, min, max;
scanf("%d %d", &max, &x);
x>max? (max=x): (min =x);
}
```

(b)
```
main( )
{
    int   code ;
    scanf ( "%d", &code ) ;
    if ( code > 1 )
        printf ( "\nJerusalem" ) ;
    else
        if ( code < 1 )
            printf ( "\nEddie" ) ;
        else
            printf ( "\nC Brain" ) ;
}
```

(b)
```
main( )
{
    int   code ;
    scanf ( "%d", &code ) ;
    if ( code > 1 )
        printf ( "\nJerusalem" ) ;
    else
        if ( code < 1 )
            printf ( "\nEddie" ) ;
        else
            printf ( "\nC Brain" ) ;
}
```

```
main()
{
int code;
scanf("%d",&code);
code>1? printf("\nJerusalem"): code<1? printf("\nEddie"):printf("Brain");
}
```

Associativity of Conditional Operator

t= a? b: c? d: e;

t = (a?b:(c?d:e));

t= (a? b: c)? d: e;

Associativity of Conditional Operator

Eg. a=1, b=2, c=3, d=4, e=5

t= a? b: c? d: e;

Ans = 2

t = (a?b:(c?d:e));

Ans = 2

t= (a? b: c)? d: e;

Ans = 4

Associativity of Conditional Operator is **Right to Left**

Program # 1

- Using Conditional operators determine:

a) Whether the character entered through the keyboard is a Upper case alphabet or not

b) Whether the character entered through the keyboard is a special symbol or not

ASCII CHART

Value	Char	Value	Char	Value	Char	Value	Char	Value	Char	Value	Char
0		22	▬	44	,	66	B	88	X	110	n
1	☺	23	↕	45	-	67	C	89	Y	111	o
2	☻	24	↑	46	.	68	D	90	Z	112	p
3	♥	25	↓	47	/	69	E	91	[	113	q
4	♦	26	→	48	0	70	F	92	\	114	r
5	♣	27	←	49	1	71	G	93	]	115	s
6	♠	28	⌐	50	2	72	H	94	^	116	t
7	•	29	↔	51	3	73	I	95	_	117	u
8	◘	30	▲	52	4	74	J	96	`	118	v
9	○	31	▼	53	5	75	K	97	a	119	w
10	◙	32		54	6	76	L	98	b	120	x
11	♂	33	!	55	7	77	M	99	c	121	y
12	♀	34	"	56	8	78	N	100	d	122	z
13	♪	35	#	57	9	79	O	101	e	123	{
14	♫	36	$	58	:	80	P	102	f	124	|
15	☼	37	%	59	;	81	Q	103	g	125	}
16	►	38	&	60	<	82	R	104	h	126	~
17	◄	39	'	61	=	83	S	105	i	127	ᴹH
18	↕	40	(	62	>	84	T	106	j	128	Ç
19	‼	41	)	63	?	85	U	107	k	129	ü
20	¶	42	*	64	@	86	V	108	l	130	é
21	§	43	+	65	A	87	W	109	m	131	â

Whether the character entered through the keyboard is a lower case alphabet or not

```c
#include<stdio.h>
int main()
{
    char c;
    printf("Enter the character");
    scanf("%c",&c);
    (c>=65 && c<=90)? printf("Upper case Alphabet"): printf(                    );
    return 0;
}
```

"Not an upper case alphabet"

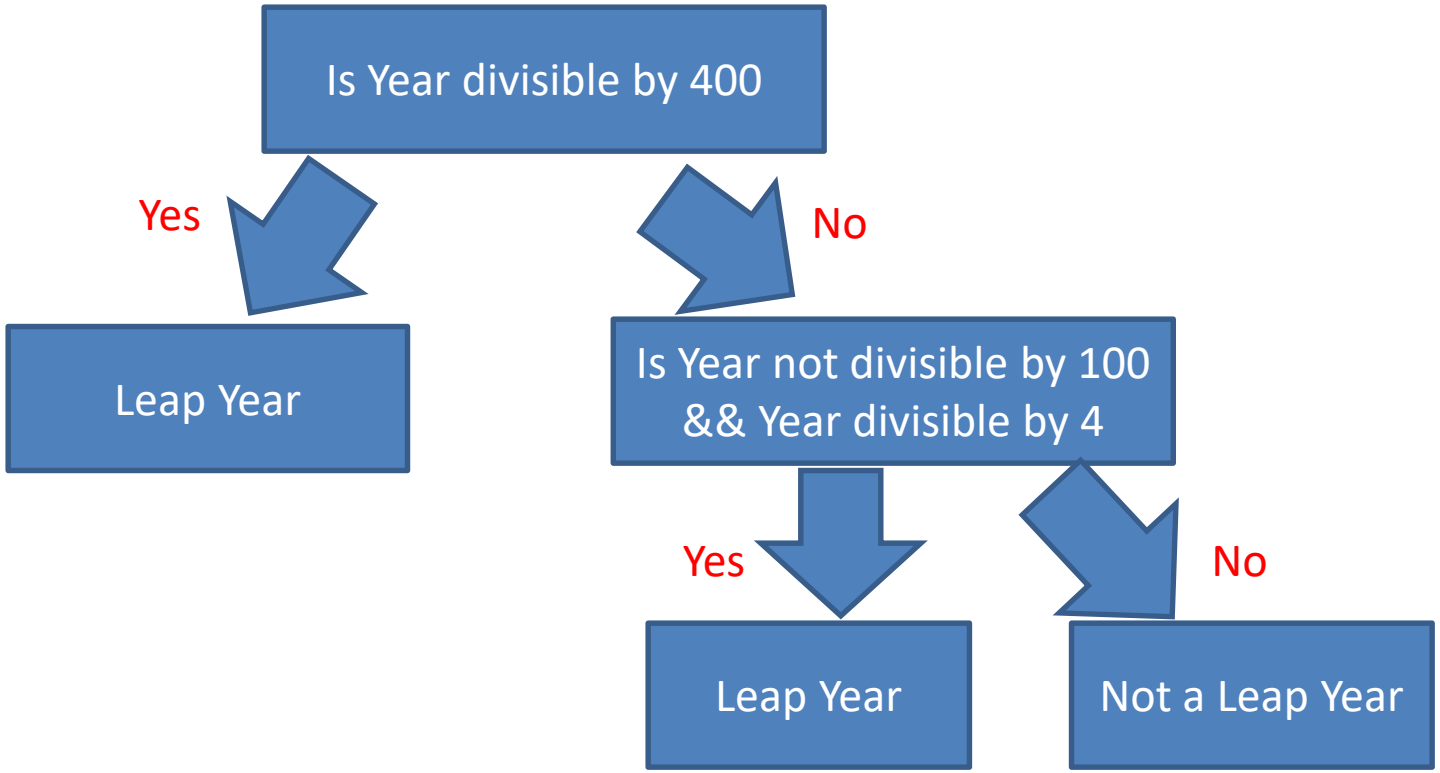
Whether the character entered through the keyboard is a special symbol or not

```c
#include<stdio.h>
int main()
{
    char c;
    printf("Enter the character");
    scanf("%c",&c);
    ((c>=0 && c<=47)||(c>=58 && c<=64) || (c>=91 && c<=96)|| (c>=123 && c<=131)  )?
        printf("Special Symbol"): printf("Not a special symbol");
    return 0;
}
```

Program #2

- Write a program using conditional operators to determine whether a year entered through keyboard is a leap year or not

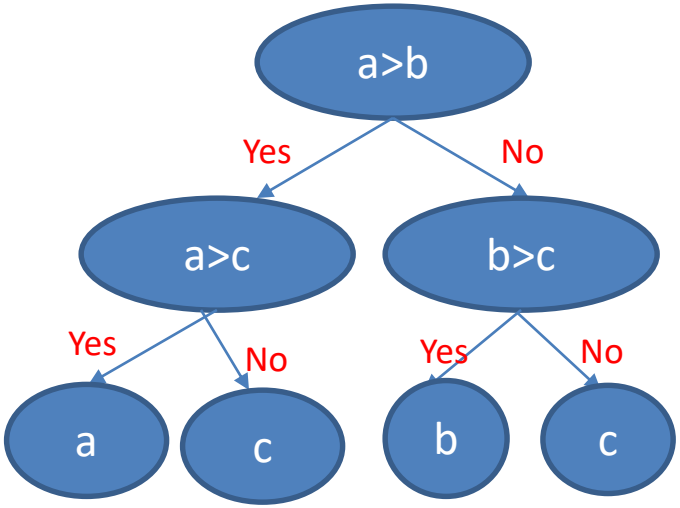
Leap Year or Not a Leap Year

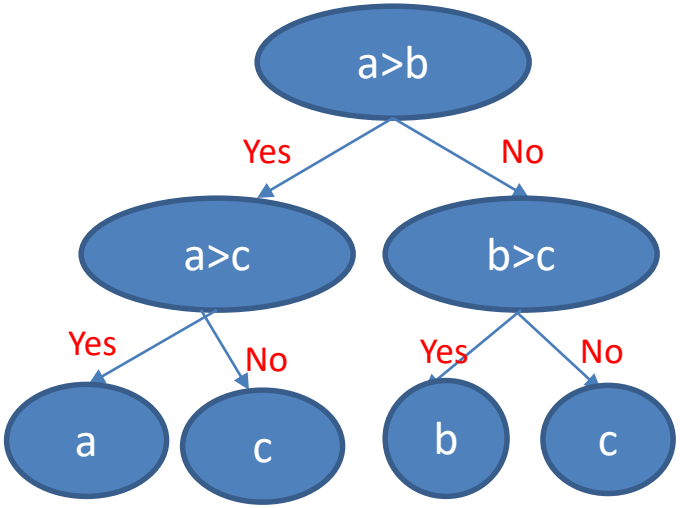


```c
#include<stdio.h>
int main()
{
    int Year;
    printf("Enter the year");
    scanf("%d",&Year);
    (Year%400 == 0) || (Year%4==0 && (Year%100 != 0))?
        printf("Leap Year"):printf("Not a Leap Year");
    return 0;
}
```

Program # 3

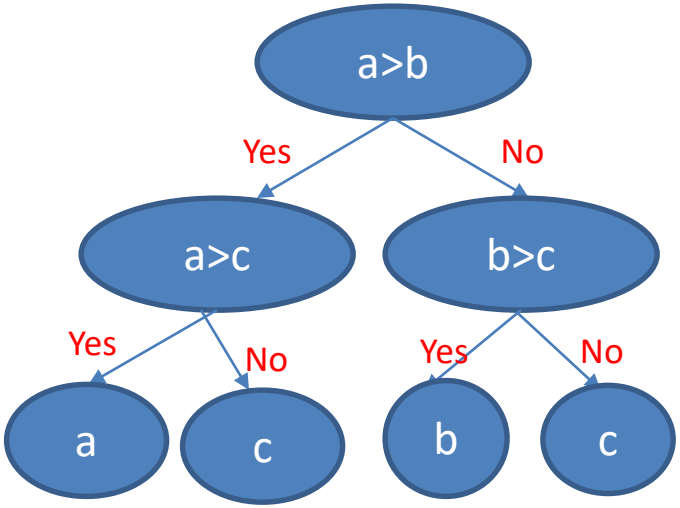
- Write a program to find the greatest of the three numbers entered through the keyboard. Use conditional Operators


a>b
Yes
No
a>c
b>c
Yes
No
Yes
No
a
c
b
c



Method A

```
t= a>b? (a>c?a:c):(b>c? b:c);
printf("%d",t);
```



Method A

```
t= a>b? (a>c?a:c):(b>c? b:c);
printf("%d",t);
```

Method B

```
a>b? (a>c?printf("largest number is %d",a):printf("largest number is %d",c)):
   (b>c? printf("largest number is %d",b):printf("largest number is %d",c));
```

```
main( )
{
    float sal ;
    printf ("Enter the salary" ) ;
    scanf ( "%f", &sal ) ;
    if ( sal < 40000 && sal > 25000 )
        printf ( "Manager" ) ;
    else
        if ( sal < 25000 && sal > 15000 )
            printf ( "Accountant" ) ;
        else
            printf ( "Clerk" ) ;
}
```

1) Choose a C Conditional Operator from the list.

A) ?:

B) :?

C) :<

D) <:

) Choose a syntax for C Ternary Operator from the list.

A) condition ? expression1 : expression2

B) condition : expression1 ? expression2

C) condition ? expression1 < expression2

D) condition < expression1 ? expression2

) What is the output of the C statement.?

```
int main()
{
    int a=0;
    a = 5<2 ? 4 : 3;
    printf("%d",a);

    return 0;
}
```

) What is the output of C Program.?

```
int main()
{
    int a=0;
    a = printf("4");
    printf("%d",a);

    return 0;
}
```

) What is the output of the C statement.?

```
int main()
{
    int a=0;
    a = 5<2 ? 4 : 3;
    printf("%d",a);

    return 0;
}
```

) What is the output of C Program.?

```
int main()
{
    int a=0;
    a = printf("4");
    printf("%d",a);

    return 0;
}
```

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5) What is the output of the C Program.?

```
int main()
{
    int a=0;
    a = 5>2 ? printf("4"): 3;
    printf("%d",a);

    return 0;
}
```

13) What is the output of the C Program.?

```
int main()
{
    if( 4 > 5 )
        printf("Hurray..\n");
        printf("Yes");

    return 0;
}
```

5) What is the output of the C Program.?

```
int main()
{
    int a=0;
    a = 5>2 ? printf("4"): 3;
    printf("%d",a);

    return 0;
}
```

41

13) What is the output of the C Program.?

```
int main()
{
    if( 4 > 5 )
        printf("Hurray..\n");
        printf("Yes");

    return 0;
}
```

Yes

15) What is the output of the C Program.?

```
int main()
{
    if( 10 < 9 )
        printf("Hurray..\n");
    else if(4 > 2)
        printf("England");

    return 0;
}
```

```
#include<stdio.h>
int main()
{
  if( 10 > 9 )
        printf("Hurray..\n");
    else if(4 > 2)
        printf("England");

    return 0;
}
```

15) What is the output of the C Program.?

```
int main()
{
    if( 10 < 9 )
        printf("Hurray..\n");
    else if(4 > 2)
        printf("England");

    return 0;
}
```

England

```
#include<stdio.h>
int main()
{
  if( 10 > 9 )
        printf("Hurray..\n");
    else if(4 > 2)
        printf("England");

    return 0;
}
```

Hurray

Which of the below given expressions is equivalent to the expression given in blue tile

a ? b : c ? d : e ? f : g

(a ? b : c) ? d : (e ? f : g)

a ? (b : c ? d : e ? f) : g

a ? b : (c ? d : (e ? f : g));

PROGRAM 6

An Insurance company follows following rules to calculate premium.

(1) If a person's health is excellent and the person is between 25 and 35 years of age and lives in a city and is a male then the premium is Rs. 4 per thousand and his policy amount cannot exceed Rs. 2 lakhs.

(2) If a person satisfies all the above conditions except that the sex is female then the premium is Rs. 3 per thousand and her policy amount cannot exceed Rs. 1 lakh.

(3) If a person's health is poor and the person is between 25 and 35 years of age and lives in a village and is a male then the premium is Rs. 6 per thousand and his policy cannot exceed Rs. 10,000.

(4) In all other cases the person is not insured.

Write a program to output whether the person should be insured or not, his/her premium rate and maximum amount for which he/she can be insured.

If a person's health is excellent and the person is between 25 and 35 years of age and lives in a city and is a male then the premium is Rs. 4 per thousand and his policy amount cannot exceed Rs. 2 lakhs.

- Input variables :
  - Health
  - Age
  - Place
  - Gender

If a person's health is excellent and the person is between 25 and 35 years of age and lives in a city and is a male then the premium is Rs. 4 per thousand and his policy amount cannot exceed Rs. 2 lakhs.

- Input variables :
  - Health (Character variable)
  - Age (integer)
  - Place (character)
  - Gender (character)