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8
valid or not. If if the thrangle is or iscalene. Take
il the through is
07 iscalene. Take
a usen.
briangle: , , ,
&°c);
+ c >a)) {
, "\.
. \m");
\\ \ <u>\</u>
ral. \m");
c) { bs. \m");
bs. \n");
,

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## EXPERIMENT NO. : 3-1

## Conditional Statements

1) WAP to take check if the truangle is valid or not. If the validity is certablished, do check if the truangle is usosceles, equilateral, oright angle, or iscalene. Take sides of the towardle as imput from a user.

# unclude < stdio.h>

int main ()

ર્

und a, b, c;

pounts ("Enter the three sides of the truangle: ") iscarf ("% d % d % d", &a, &b, &c);

g ((a+b>c) && (a+c>b) && (b+c>a)) {
pointy ("The truingle is valid. \m");

If (a = b & b = c) of printy ("The truangle is Equilateral. \n");

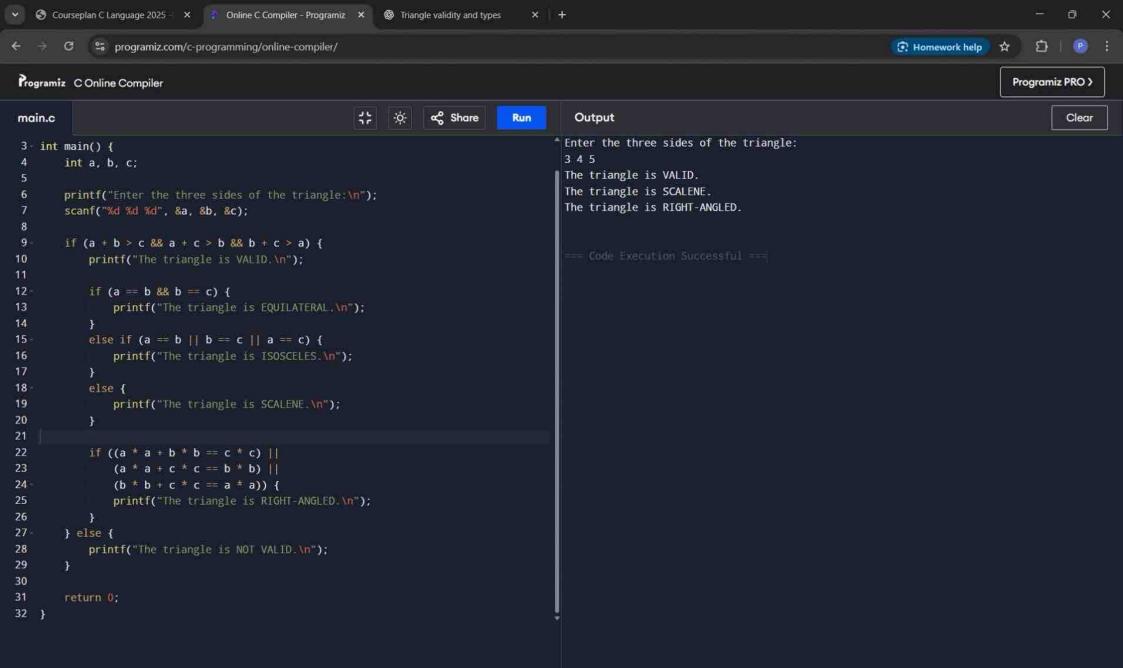
else if  $(a==b \mid | b==c \mid | a==c)$  & point ("The thriangle is Isosceles. \n");

 $\begin{cases}
4 & (a*a+b*b == c*c) & || \\
(a*a+c*c == b*b) & || \\
(b*b+c*c == a*a)) & (a*a+c*c == a*a)
\end{cases}$ 

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point ("The triangle is Right-angled. \n");  3  9 (a!=b && b!=c && a!=c) &  point ("The triangle is Scalene. \n");  3
7 0 0 4
prints ("The iteriangle is not valid. \m");
return 0; 3
Output: Enter the three usides of the towards:  3 4 5  The triangle is valid.
The tourngle us Right - angled.  The Ibriangle us Scalene.

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2)	WAP to compute the BMI Index of the person	
	and point the BMI values as por the following	
	compute BMI = weight (kgs) / height (Mts) * Height (Mts	)
	compule BMI = allight (kgs) / neight (rus) raight (rus)	

# imclude < vstdio .h >

unt main () {
yloat weight, height, bmi;

prints ("Enter weight in Kilogram:"); iscarf ("% f", & weight);

pountif ("Enter height un méleus: "); iscanf ("%f", & height);

of (weight <= 0 11 height <= 0) &

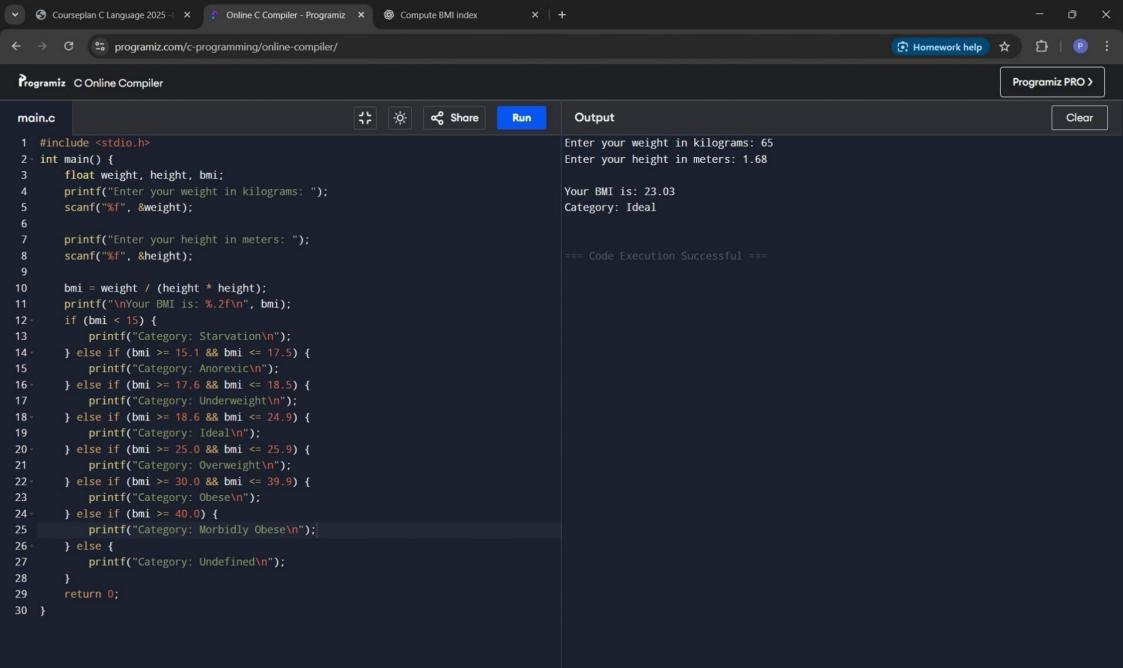
pointy ("Invalid Input! weight and height must

be greater than zono. \m");

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vieturin 1;	
bmi = weight / (height * height);	
printy ("Your bri us: %.2f	\m", bmi);
f (bmi < 15.0) {	
prints ("Lategory: Starriation	lη");
Julse if (bmi >= 15.1 && bm	i <= 17.5) {
printy ("Lategory: Anorexic )	n");
3 colse if (bmi >= 17.6 & & bm	i <= 18.5) d
prints ("Category: underweigh	t \m');
pounts ("Category: underweight 3 else up (bmi >= 18.6 & & bmi	(= 24.9) 2
3 else yf (bmi >= 25.0 & 8 bm	);
3 else y (bmi >= 30.0 & & br	mi < = 29.9)
neumil (" (otigory : Ohere ) m"	):
3 relse ii (bmi >= 40.0) {	<del>-/-)</del>
prints (" (ategory: Obese \ m"  3 relse ij (bmi >= 400) {  prints (" (ategory: Morlidly  2 relse s	Obese \m");
3 ielse {	. ,
printy ("bmi does not match an	y knoun kategory.
×at au a	
retween 0;	
J	
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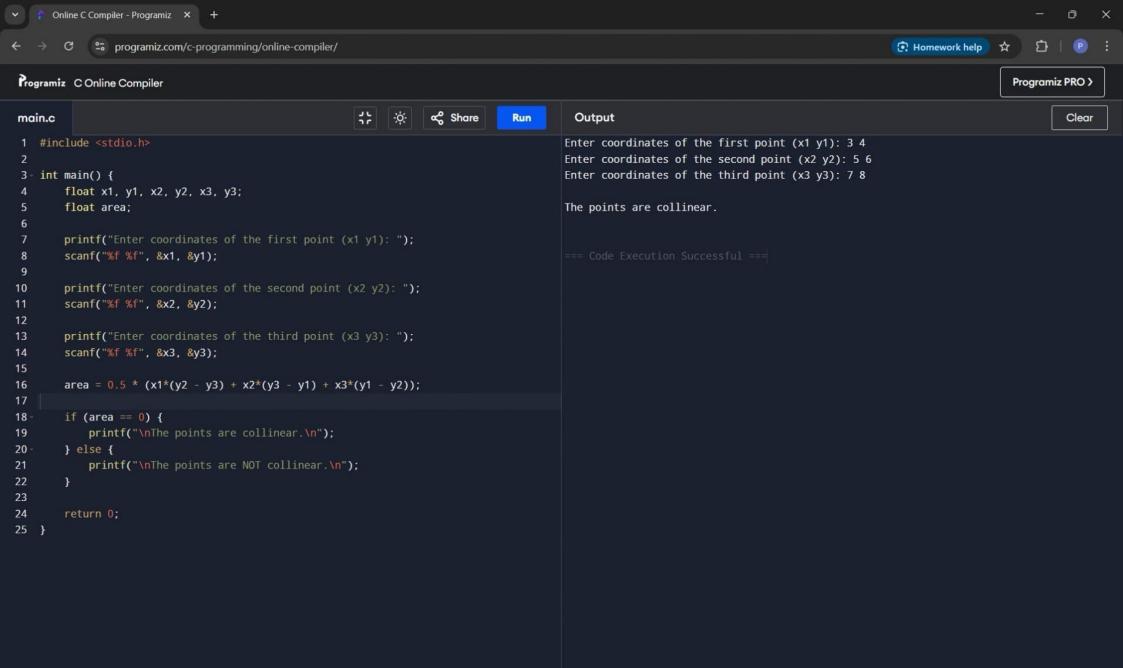
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1	t: Enter weight in Kilogram: 65 Enter height in meters: 1.68 Your BMI is: 23-03 Category: Ideal	
Vupu	Enter height in motoris: 1.68	
	Yours RMI is 23-03	
	Catagori, Adago	
	Caregory . Valle	
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xpt. NoPage No	_
3) WAP to wheck if there points $(x_1, y_1)$ , $(x_2, y_2)$ , and $(x_3, y_3)$ are wollinear or not.	
# unclude < vstdio · h >	
int main () {  yloat x1, y1, x2, y2, x3, y3;  yloat area;	
prints ("Enter coordinates of boints 1 (x1 y): ") useans ("% f % f", & x1, & y1);	
point ("Enter coordinates of point 2 (22 y2):") uscanf ("%f %f", &x2, &y2);	
point ("Enter coordinates of point 3 (x3 y3):") escanf ("%f %f", &x3, &y3);	) -,
area = 0.5 * (x1(y2-y3) + x2*(y3-y1) + x3*(y1-y2))	•
g (area = = 0.0) {  pounts ("The points are vallinear. \n");  relse {  pounts ("The points were not collinear. \n");  }	
pounts ("The points were not collinear. \n");	
seturn o;	
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Output:	Enter the	coordinates	of point	1 (x1, y1):
				- 1-12
	Enter the	coordinates	of point	3 (x3, y3)
		are collinea		
			1	
7				
				,
			, , , , , , , , , , , , , , , , , , , ,	
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Y) According to the gregorian valender, it was  Monday on the idate 01/01/01. If vary year is  input through the keyboard write a program  to find out what is the day on 1st January of this year.
# include < vstdio.h >
int isleapyear (int year) {   if ((year %4 = = 0 && year % 100!=0)
return 1;
ielse
return 0;
<u>}</u>
unt main () ! unt year, i, total - days = 0, day;
char * days [] = {
char * days [] = {  "Monday", "Tues day", "Wednesday", "Thursday",  "Fouday", "Saturday", "Symday"
3;
point ("Enter the year: "); uscarf ("%d", & year);
$y_{07}(i=1; i < y_{07}; i++)$

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itotal	_	days	+	=	366	9
		0				,

ielse

total - days += 365;

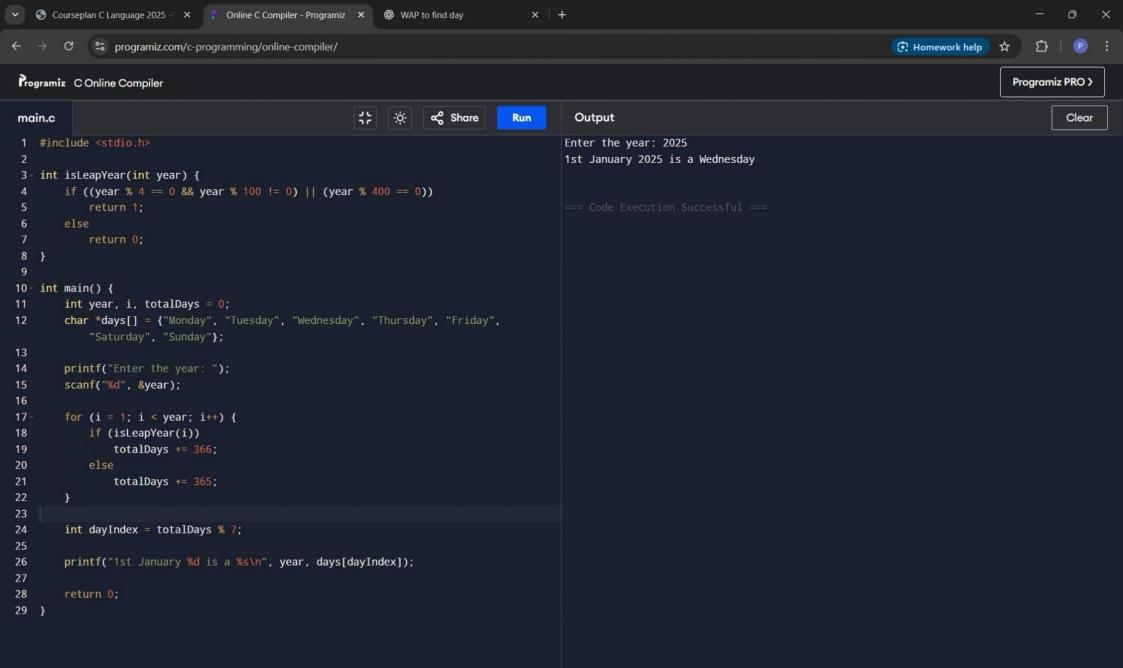
day = total - days %7;

pounts ("1st January of year %d is ia %s. \m",
year, days [day]);

rotuem o;

Output: Enter the year: 2025 1st January of year 2025 is well with the star of year 2025 is well and the star of year 2025 is well as the year 2025 is well a

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5) WAP using ternary operator, the length and breadth of a to find out which rectangle	
perimeter. The minimum mun	nlier of reclangles
ishould be theree.	
# include < vstdio h >	

	# unclude & statio.n
	int main () {
	unt el, b1, l2, b2, el3, b3;
	int $\rho 1$ , $\rho 2$ , $\rho 3$
_	
	unt max Resumeters;
	ant max Rect;

points ("Enter length and breadth of reclargle 1: seans ("% d %d", & ll, & b1);

pounts (" Enter length and breadth of rectangle 2: seans (" % d % d", & l2, & b2);

prints ("Enter length and breadth of rectangle 3: "); escanf ("%d %d", &d3, &b3);

$$p1 = 2 * (l1 + b1);$$
  
 $p2 = 2 * (l2 + b2);$   
 $p3 = 2 * (l3 + b3);$ 

max Resumeters = 
$$(p_1 > p_2)$$
?  $((p_1 > p_3)$ ?  $p_1: p_3)$ :  $((p_2 > p_3)$ ?  $p_2: p_3)$ ;

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maxhedangle = $(p_1 > p_2)$ ? $((p_1 < p_2)$	> p3) ? 1:3) : > p3) ? 2:3) :
printy (" In Rectangle % d has " % d In", maxRect	the highest perimeter: angle, max Revimeter)
return 0;	
Output: Enter length and bread	th of rectangle 1:  3 20  th of rectangle 2:
Enter dength and bread	dth of rectangle 3:
Rectangle i has the highest pe	rimeter: 46
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