

PR-3: Conditional Statements :-

1. Write a C program to find number is positive, negative or zero.

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

```
int main() {  
  
    int a;  
  
    printf("Please enter of a: \n");  
  
    scanf("%d", &a);  
  
    a >= 0 ? printf("%d is Positive number\n",a) : printf("%d is Nagetive number\n",a);  
  
    return 0;  
}
```

Output:-

Please enter of a: -5 -5 is Nagetive number	Please enter of a: 5 5 is Positive number
---	---

2. Write a C program to find Grade from percentage. Here range is given below:

- 91 - 100 A
- 81 - <91 B
- 71 - <81 C
- 61 - <71 D
- 40 - <61 E
- <40 Failed

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

```
int main() {
```

```
float per;

printf("Please enter any charcter: ");

scanf("%f", &per);


if (per >=91 && per <= 100) {

    printf("Grade: A");

} else if (per >= 81 && per <= 91) {

    printf("Grade: B");

} else if (per >= 71 && per <= 81) {

    printf("Grade: C");

} else if (per >= 61 && per <= 71) {

    printf("Grade: D");

} else if (per >= 41 && per <= 61) {

    printf("Grade: E");

} else if (per >= 0 && per <= 41) {

    printf("Failed");

} else {

    printf("Invalid Input");

}


return 0;

}
```

Output:-

```
Please enter any charcter: 91
Grade: A
```

3. Write a C program to find input is alphabet, number or special symbols.

```

#include<stdio.h>

int main() {
    char ch;

    printf("Please enter any charcter: ");

    scanf("%c", &ch);

    if ((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z')) {
        printf("Alphabet\n");
    } else if (ch >= '0' && ch <= '9') {
        printf("Number\n");
    } else {
        printf("Spacial charcter\n");
    }

    return 0;
}

```

Output:-

Please enter any character: 0 Number	Please enter any character: f Alphabet	Please enter any character: # Spacial character
---	---	--

4. Write a C program to compare two number.

```

#include<stdio.h>

```

```

int main() {
    int a, b;

```

```

printf("Pease enter any two number");

scanf("%d %d", &a, &b);

if (a > b) {
    printf("%d is grater than %d",a , b);
} else if (a < b) {
    printf("%d is less than %d",a , b);
} else {
    printf("%d is equal to %d");
}

return 0;
}

```

Output:-

```

Pease enter any two number5 4    Pease enter any two number4 5    Pease enter any two number5 5
5 is grater than 4                4 is less than 5                5 is equal to 0

```

5. Write a C program to find leap year.

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

```

int main() {
    int year;

    printf("Please enter any Year:");

    scanf("%d", &year);

    if (year % 400 == 0) {

```

```

        printf("Leap Year;");

    } else if (year % 100 == 0) {

        printf("Not Leap Year;");

    } else if (year % 4 == 0) {

        printf("Leap Year");

    } else {

        printf("Not Leap Year");

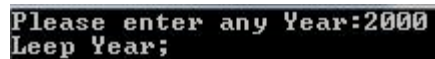
    }

    return 0;

}

```

Output:-



```

Please enter any Year:2000
Leap Year;

```

6. Write a C program to input electricity unit charges and calculate total electricity bill according to the given condition: For first 50 units Rs. 0.50/unit
 For next 100 units Rs. 0.75/unit
 For next 100 units Rs. 1.20/unit
 For unit above 250 Rs. 1.50/unit
 An additional surcharge of 20% is added to the bill.

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

```

int main() {
    float unit , bill, total_bill;

    printf("Please enter Electrictiy Unit:");
    scanf("%f", &unit);

    if (unit >= 0 && unit <= 50) {
        bill = unit * 0.50;
    } else if (unit > 50 && unit <= 150) {
        bill = 50 * 0.50 + (unit - 50) * 0.70;
    } else if (unit > 150 && unit <= 250) {
        bill = 50 * 0.50 + 100 * 0.70 + (unit - 150) * 1.00;
    } else if (unit > 250) {
        bill = 50 * 0.50 + 100 * 0.70 + 100 * 1.00 + (unit - 250) * 1.20;
    }
}

```

```

    }

    total_bill = bill + bill * 0.20;

    printf("Bill is: %f\n",bill);
    printf("total Bill is: %f",total_bill);

    return 0;
}

```

Output:-

```

Please enter Electrictiy Unit:52
Bill is: 26.400000
total Bill is: 31.680000

```

7. Write a C program that ask your gender and salary and give bonus according to following criteria:

- If you are male and your salary is less than 10000 than company will provide 2% bonus of your salary
- If you are female and your salary is less than 10000 than company will provide 3% bonus of your salary

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

```

int main() {

    int salary, bonus, total_salary;

    char gender;

    printf("Please enter your gender and salary");

    scanf("%c %d", &gender, &salary);

    if (gender == 'm' && salary < 10000) {

        bonus = salary * 0.02;

    } else if (gender == 'f' && salary <10000) {

        bonus = salary * 0.03;

    }

    total_salary = salary + bonus;

    printf("Your salary is: %d\n", salary);
}

```

```

printf("Your bonus is: %d\n", bonus);

printf("Your Total salary is: %d\n", total_salary);


return 0;

}

```

Output:-

```

Please enter your gender and salarym 5000
Your salary is: 5000
Your bonus is: 100
Your Total salary is: 5100

```

8. Write a C program to calculate tax from given image.

<i>Gross salary</i>	<i>Tax rate</i>
Gross <= 2000	No tax deduction
2000 < Gross <= 4000	3%
4000 < Gross <= 5000	5%
Gross > 5000	8%

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

```

int main() {

    int Gross,total;


    printf("Please enter any number:");

    scanf("%d", &Gross);


    if (Gross <= 2000) {

        printf("No tax deduction");

    } else if (Gross > 2000 && Gross <= 4000) {

        total = (Gross * 3)/100;

    } else if (Gross > 4000 && Gross <= 5000) {

        total = (Gross * 5)/100;

```

```

    } else if (Gross > 5000) {

        total = (Gross * 8)/100;

    }

    printf("Ans is: %d",total);


    return 0;

}

```

Output:-

```

Please enter any number:3000
Ans is: 90

```

9. Write a C program for calculate scholarship from given criteria:
Cast Criteria:

- Open: No Scholarship
- OBC: 25%
- SC: 50%
- ST: 100%

Grade Criteria:

- Your grade must be same or above B to eligible for scholarship.

Grade:

- A (CGPA: 9+)
- B (CGPA: 8.5+)
- C (CGPA: 8+)
- D (CGPA: 7.5+)

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

```

int main() {

    char cast, grade;

    int fees, scholarship, totale_fees;

    float cgpa;


    printf("Enter your cast, CGPA and Fees: ");

```



```
scanf("%c %f %d", &cast, &cgpa, &fees);
```

```
if (cgpa > 9 && cgpa <= 10) {
```

```
    grade = 'A';
```

```
} else if (cgpa > 8.5 && cgpa <= 9) {
```

```
    grade = 'B';
```

```
} else if (cgpa > 8 && cgpa <= 8.5) {
```

```
    grade = 'C';
```

```
} else if (cgpa > 7.5 && cgpa <= 8) {
```

```
    grade = 'D';
```

```
}
```

```
if (cast == 'O') {
```

```
    printf("No Sorry Scholarship: %c", cast);
```

```
} else if (cast == 'B' && grade >= 'B') {
```

```
    scholarship = fees * 0.25;
```

```
} else if (cast == 'S' && grade >= 'B') {
```

```
    scholarship = fees * 0.50;
```

```
} else if (cast == 'T' && grade >= 'B') {
```

```
    scholarship = fees * 1;
```

```
}
```

```
totale_fees = fees - scholarship;
```

```
printf("Your Fees is:- %d\n", fees);
```

```
printf("Your CGPA is:- %f\n", cgpa);
```

```
printf("Your scholarship is:- %d\n", scholarship);
```

```
printf("Your Totale fees is:- %d\n", totale_fees);
```

```
        return 0;
    }
}
```

Output:-

```
Enter your cast, CGPA and Fees: $ 9 55000
Your Fees is:- 55000
Your CGPA is:- 9.000000
Your scholarship is:- 27500
Your Totale fees is:- 27500
```

10. Write a C program for calculate your net income from given criteria:

- If your net income is below 10000 you have not to pay any tax.
- If your net income is below 15000 you have to pay 10% tax.
- If your net income is above 15000 you have to pay 18% tax.

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

```
int main() {
```

```
    int income, expenses, net_income, Total_net_income, Tax;
```

```
    printf("Please enter your Income:-");
```

```
    scanf("%d", &income);
```

```
    printf("Please enter your Expenses:-");
```

```
    scanf("%d", &expenses);
```

```
    net_income = income - expenses;
```

```
    if (net_income >= 0 && net_income <= 10000) {
```

```
        printf("\nNot to Pay any Tax\n");
```

```
    } else if (net_income >= 10000 && net_income <= 15000) {
```

```
//        Tax = net_income * 0.10;
```

```
        Total_net_income = net_income - (Tax= net_income * 0.10);
```

```

        } else if (net_income > 15000) {

//            Tax = net_income * 0.18;

            Total_net_income = net_income - (Tax=net_income * 0.18);

        }

        printf("Net Income is:- %d\n",net_income);

        printf("Tax is:- %d\n",Tax);

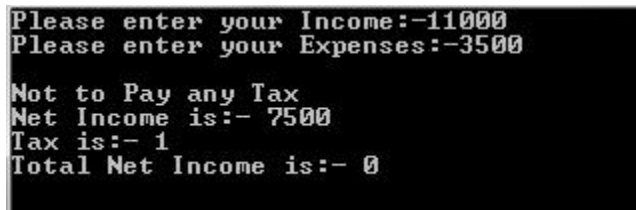
        printf("Total Net Income is:- %d\n",Total_net_income);

        return 0;

}

```

Output:-



```

Please enter your Income:-11000
Please enter your Expenses:-3500

Not to Pay any Tax
Net Income is:- 7500
Tax is:- 1
Total Net Income is:- 0

```

11. Write a C program to find out maximum from 3 numbers using nested if.

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

```

int main() {

    int a, b, c;

    printf("Please enter a, b, c:-");

    scanf("%d %d %d", &a, &b, &c);

    if (a > b) {

        if (a > c) {

            printf("%d is maximum\n", a);

```

```

        } else {

            printf("%d is maximum\n", c);

        }

    } else {

        if (b > c) {

            printf("%d is maximum\n", b);

        } else {

            printf("%d is maximum\n", c);

        }

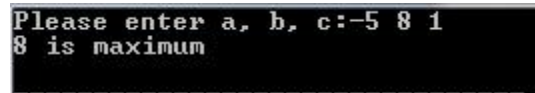
    }

    return 0;

}

```

Output:-



```

Please enter a, b, c:-5 8 1
8 is maximum

```

12. Write a C program to find out maximum from 4 numbers using nested if.

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

```

int main() {

    int a, b, c, d;

    printf("please enter any fourth number: ");

    scanf("%d %d %d %d", &a, &b, &c, &d);

    if (a>b) {

        if (a>c) {

            if (a>d) {

```

```
                printf("%d number is max",a);
            } else {
                printf("%d number is max",d);
            }
        } else {
            if (c>d) {
                printf("%d number is max",c);
            } else {
                printf("%d number is max",d);
            }
        }
    } else {
        if (b>c) {
            if (b>d) {
                printf("%d number is max",b);
            } else {
                printf("%d number is max",d);
            }
        } else {
            if (c>d) {
                printf("%d number is max",c);
            } else {
                printf("%d number is max",d);
            }
        }
    }

    return 0;
```

```
}
```

Output:-

```
please enter any fourth number: 5 2 8 9
9 number is max
```

13. Write a C program to find out minimum from 4 numbers using nested if.

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

```
int main() {
```

```
    int a, b, c, d;
```

```
    printf("please enter any fourth number: ");
```

```
    scanf("%d %d %d %d", &a, &b, &c, &d);
```

```
    if (a<b) {
```

```
        if (a<c) {
```

```
            if (a<d) {
```

```
                printf("%d number is min",a);
```

```
            } else {
```

```
                printf("%d number is min",d);
```

```
            }
```

```
        } else {
```

```
            if (c<d) {
```

```
                printf("%d number is min",c);
```

```
            } else {
```

```
                printf("%d number is min",d);
```

```
            }
```

```
        }
```

```
    } else {
```

```

        if (b<c) {
            if (b<d) {
                printf("%d number is min",b);
            } else {
                printf("%d number is min",d);
            }
        } else {
            if (c<d) {
                printf("%d number is min:",c);
            } else {
                printf("%d number is min:",d);
            }
        }
    }

    return 0;
}

```

Output:-

```

please enter any fourth number: 5 8 4 7
4 number is min

```

14. Write a C program to find user is eligible for blood donation or not using nested if.

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

```

int main() {
    int age, weight;

    printf("Please enter your Age and weight:-");
}

```

```

scanf("%d %d", &age, &weight);

if (age >= 18) {
    if (weight >= 50) {
        printf("You are Eligibel\n");
    } else {
        printf("Your Weight is under 50.\n");
    }
} else {
    printf("Your Weight is Not under 50.\n");
}

return 0;
}

```

Output:-

```

Please enter your Age and weight:-18 53
You are Eligibel

```

15. Write a C program to calculate sales discount from given image using nested if or (switch case and if condition).

Purchase amount	Discount	
	Mill cloth	Handloom items
0 – 100	—	5%
101 – 200	5%	7.5%
201 – 300	7.5%	10.0%
Above 300	10.0%	15.0%

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



```
int main() {

    int purchase_amount, tax_amuont, total_amuont;

    char items;

    printf("Please enter any Items And purchase_amount");

    scanf("%c %d", &items, &purchase_amount);

    switch (items) {

        case 'M':

            if (purchase_amount >= 0 && purchase_amount <= 100) {

                tax_amuont = purchase_amount * 0;

            } else if (purchase_amount >= 101 && purchase_amount <= 200) {

                tax_amuont = purchase_amount * 0.05;

            } else if (purchase_amount >= 201 && purchase_amount <= 300) {

                tax_amuont = purchase_amount * 0.075;

            } else if (purchase_amount > 300) {

                tax_amuont = purchase_amount * 0.1;

            }

        case 'H':

            if (purchase_amount >= 0 && purchase_amount <= 100) {

                tax_amuont = purchase_amount * 0.05;

            } else if (purchase_amount >= 101 && purchase_amount <= 200) {

                tax_amuont = purchase_amount * 0.075;

            } else if (purchase_amount >= 201 && purchase_amount <= 300) {

                tax_amuont = purchase_amount * 0.1;

            } else if (purchase_amount > 300) {

                tax_amuont = purchase_amount * 0.15;

            }

    }

}
```

```

    }

    total_amuont = purchase_amount - tax_amuont;

    printf("Purchase Amount is:-%d\n",purchase_amount);

    printf("Tax Amount is:-%d\n",tax_amuont);

    printf("Total Amount is:-%d\n",total_amuont);

    return 0;
}

```

Output:-

```

Please enter any Items And purchase_amountM 230
Purchase Amount is:-230
Tax Amount is:-23
Total Amount is:-207

```

16. Reform 9th program using nested if.

Output:-

17. Write a C program to find day name using switch case.

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

```

int main() {

    char ch;

    printf("Please enter Day Name: ");

    scanf("%c", &ch);

    switch (ch) {

```

```
        case 'M':

            printf("Monday");

            break;

        case 'T':

            printf("Tuesday");

            break;

        case 'W':

            printf("Wednesday");

            break;

        case 't':

            printf("Thursday");

            break;

        case 'F':

            printf("Friday");

            break;

        case 'S':

            printf("Saturday");

            break;

        case 's':

            printf("Sunday");

            break;

        default:

            printf("Invalid input");

            break;

    }

    return 0;

}
```

Output:-

```
Please enter Day Name: M
Monday
```

18. Write a C program to find month name from month number using switch case.

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

```
int main() {
```

```
    int num;
```

```
    printf("Please enter Day Name: ");
```

```
    scanf("%d", &num);
```

```
    switch (num) {
```

```
        case 1:
```

```
            printf("January");
```

```
            break;
```

```
        case 2:
```

```
            printf("February");
```

```
            break;
```

```
        case 3:
```

```
            printf("March");
```

```
            break;
```

```
        case 4:
```

```
            printf("April");
```

```
            break;
```

```
        case 5:
```

```
            printf("May");
```

```
            break;
```

```
        case 6:

            printf("June");

            break;

        case 7:

            printf("July");

            break;

        case 8:

            printf("augest");

            break;

        case 9:

            printf("september");

            break;

        case 10:

            printf("Octomber");

            break;

        case 11:

            printf("November");

            break;

        case 12:

            printf("December");

            break;

        default:

            printf("Invalid input");

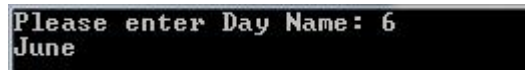
            break;

    }

    return 0;

}
```

Output:-

A terminal window with a black background and white text. The first line says "Please enter Day Name: 6" and the second line says "June".

```
Please enter Day Name: 6
June
```

19. Reform 7th program using switch case and if condition.

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

```
int main() {
```

```
    int salary, bonus, total_salary;
```

```
    char gender;
```

```
    printf("Please enter your gender and salary");
```

```
    scanf("%c %d", &gender, &salary);
```

```
    switch (gender) {
```

```
        case 'm':
```

```
            if (gender == 'm' && salary < 10000) {
```

```
                bonus = salary * 0.02;
```

```
            }
```

```
            break;
```

```
        case 'f':
```

```
            if (gender == 'f' && salary < 10000) {
```

```
                bonus = salary * 0.03;
```

```
            }
```

```
            break;
```

```
    }
```

```
    total_salary = salary + bonus;
```

```
        printf("Your salary is: %d\n", salary);

        printf("Your bonus is: %d\n", bonus);

        printf("Your Total salary is: %d\n", total_salary);


        return 0;

    }
}
```

Output:-



```
Please enter your gender and salaryf 8000
Your salary is: 8000
Your bonus is: 240
Your Total salary is: 8240
```

20. Write a program to check whether a given number is divisible by 5 or not.

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

```
int main() {

    int i,n;

    printf("Please enter any number: ");

    scanf("%d", &n);

    printf("Numbers divisible by 5 are:");

    for(i=1;i<=n;i++){

        if(i % 5 == 0){

            printf("\n%d",i);

        }

    }

    return 0;

}
```

Output:-

```
Please enter any number: 25
Numbers divisible by 5 are:
5
10
15
20
25
```