**C ASSIGNMENT**

**IF /IF ELSE/ IF ELSEIF/ NESTED IF**

1. WAP to in put an age of a person and check where he is an adult or not

2. WAP to check whether a number is odd or even

3. WAP to check weather a number is divisible by 8 or not

4 WAP to check whether numerator and denominator and check it is divisible or not.

5. WAP to check whether a number is positive or not.

6. WAP to check a Year leap year or not.

7. WAP to check a character is vowel or not.

8. WAP to calculate the commission at the end of the month for a company, which gives a 10% commission to its salesman if their monthly sales amount is Rs 10,000 or more.

9. ABC Company gives a 5% commission to its salesman if their monthly sales are less than Rs. 10,000 and a10% commission if is equal to or greater than Rs. 1 0,000 Calculate the commission at the end of the month.

10. XYZ Company gives allowances to its employees depending on their grade as follows.

|  |  |
| --- | --- |
| Grade | Allowances |
| A | 300 |
| B | 250 |
| Others | 100 |

Calculate the Salary at the end of the month

11. The company plans to give a year –end 5% bonus to each of its employees, However if an employee has beenworking for 10 or more years at the company he has to get an additional Rs. 500, lets calculate the bonus for any given employee

12. Montauk Company has decided to make their commission structure more aggressive for their sales department as follows.

|  |  |  |
| --- | --- | --- |
| Sales | Grade | Commission |
| 10,000 | 1 | 10% |
|  | 2 | 8% |
| <=10,000 | -- | 5% |

13. WAP to calculate the fare for a railway journey depending on the following conditions.

|  |  |  |
| --- | --- | --- |
| **Age** | **Distance [ in Kms ]** | **Fare** |
| Below 10 | Below 50 | 5 |
|  | 51 -100 | 10 |
|  | Above 100 | 15 |
| 11-50 | Below 50 | 10 |
|  | 51-100 | 15 |
|  | Above 100 | 20 |
| Above50 | Below 50 | 15 |
|  | 51-100 | 20 |
|  | Above100 | 25 |

14. WAP to initialize the Name of Student and his Average Marks and the assign him a grade as per the following rules

a. AvgMarks >=90 then grade is A+

b. AvgMarks >=80 and <90 then grade is A

c. AvgMarks >=70 and <80 thengrade is B+

d. AvgMarks >=and <70 then grade is B

e. Avg Marks >=50 and <60 then grade is C

f. AvgMarks <50 then FALL

15. WAP to find the roots of a quadratic equation given by ax2 + bx + c =0 If b2- 4ac > 0 then print the roots are real and unequal

Rootl = \*\*\*\*\*\*\*\*\*\* Root2 = \*\*\*\*\*\*\*\*\*\*\*\*\*

2a 2a v If b - 4ac = 0 then print the, roots are real and equal.

Root= — la

If b2- 4ac < 0 then print the roots are complex and imaginary.

16. The rates of income tax applicable on income of the individuals for the assessment year 2003-2004 were as follows.

|  |  |
| --- | --- |
| **Net income Range** | **Rates of Income Tax** |
| Up to Rs 50000 | Nil |
| Above Rs. 50000 but up to Rs. 60000. | 10% of the amount by which the total income exceeds Rs. 50000 |
| Above Rs. 60000 but up to Rs 150000. | Rs. 1000 plus 20% of the amount by which the total income exceeds Rs. 6 thousand |
| Above Rs. 150000 | Rs. 19000 plus 30% of the amount by which the total income exceeds Rs. 150000. |

17. In Order to force consumers to consume less water at their homes ,the corporation adopts a set of conservative annual water tax rules based upon the water consumption of the consumer The criteria and tax are as follows

|  |  |
| --- | --- |
| **Water Consumed [in gallons]** | **Tax Rate** |
| Up to 50 | NIL |
| More than 50 but less than100 | 500 |
| More than 100 but less than 200 | 800 |
| More than 200 but less than 300 | 1100 |
| More than 300 | 1700 |

18. A bicycle shop hires a bicycle on a daily basis at different rates throughout the year the following table illustrates how the hire charges vary through the year.

|  |  |
| --- | --- |
| **Season** | **Daily Charges [in Rs.]** |
| Spring | 4.00 |
| Summer | 7.00 |
| Autumn | 3.00 |
| Winter | 2.00 |

The proprietor also gives a discount on the number of days the bicycle is hired for. If the bicycle are hired for more than 10days .than a discount of 30% is given on the total charge Further for every bicycle hired a security deposit of Rs.100 must be paid WAP to initialize the season and the number of days the bicycle is hired for and output the hire charge including the deposit .

19. A student appears for a test in 3 subjects. Each test is out of 100 marks. The percentage of each student has to be calculated and depending on the percentage calculated, grades are given as under.

|  |  |
| --- | --- |
| **Percentage** | **Grade** |
| >=90 | A+ |
| 80-89 | A |
| 70-79 | B+ |
| 60-69 | B |
| 50-59 | C+ |
| <50 | Fail |

20. Universal, a stationary store gives discounts to its customers. The store gives two types of discounts namely quantity and cash discounts. The quantity discount is given depending on the quantity bought as shown in the table given below. A cash discount of 5% is given only to customers who make an early payment, which is within three days of the delivery of the order.

|  |  |
| --- | --- |
| Qty | Discount |
| <5 | 0% |
| >=5 but <25 | 5% |
| >=25 but <50 | 10% |
| >=50 but <100 | 15% |
| >100 | 20% |

WAP to calculate the bill amount.

21. A company insures its drivers in the following cases:

a. If the drivers is married

b. If the drivers is unmarried, male and above 30 years of age.

c. If the drivers is unmarried, female and above 25 years of age.

In all other cases the driver is not insured. If the marital status, sex and age of the driver are inputs, write a program to determine whether the driver is to be insured or not.

22. Any character is entered through the key board, write a program to determine weather the character entered is a capital letter, a small case letter,, a digit or a special character.

|  |  |
| --- | --- |
| Character | ASCII values |
| A-Z | 65-90 |
| a-z | 97-122 |
| 0-9 | 48-57 |
| Special symbols | 0-47,58-64,91-96,123,127 |

23. An insurance company follows following rules to calculate premium.

a. 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 can not exceed Rs. 2 Lakhs.

b. If a person’s satisfied all the above conditions except that the sex is female then the premium is Rs. 3 per thousand and her policy amount can not exceed Rs. 1 Lakhs.

c. 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 amount can not exceed Rs. 10,000.

d. In all the other cases the person is not insured.

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

24. A library charges a fine for books returned late. Following are the fines:

|  |  |  |
| --- | --- | --- |
| First five days | **:** | 40 paise per day |
| Six to ten days | **:** | 65 paise per day |
| Above-ten days | **:** | 80 paise per day |

WAP to calculate the fine assuming that the book is returned N days late.

25. WAP to input two numbers and print the greatest number among the two

26. WAP to find the greatest no among the three numbers inputted from the user

27. WAP to calculate the amount for telephone bill as per the given instructions:

For first 100 calls = Rs. 100/

For additional 50 calls = Rs. 2 per call

For calls more than 150 = Rs. 2.50 per call

28. A security man is paid at the hourly rate (R) for the first 35 hours of work in a week. There after, he is paid at 1.5 times the hourly rate (R) for the next 20 hours and at 2 times the hourly rate (R) for further hours of work in the week.

Taking the number of hours (H) and the rate per hour (R) as inputs, WAP to calculate the weekly wage (W).

29. A bank offers the following rates of interest for the fixed deposits:

|  |  |
| --- | --- |
| **Time (in Year)** | **Rate (%)** |
| Up to ½ | 9 |
| >½ but <=1 | 10 |
| >1 but <=3 | 11 |
| >3 | 12 |

The amount (A) after n year is calculated by using the formula:

A=P(1+r/100)n

Where, = Principal amount

r = rate of interest

WAP to calculate the amount accrued by the investor.

30. The monthly electricity bill is to be computed as follows:

Minimum Rs. 250 for the first 100 units

Plus Rs. 0.40 per unit for next 50 units

Plus Rs. 0.50 per unit for next 50 units

Plus Rs. 0.60 per unit for next 50 units

WAP which calculates the monthly bill based on the number of units consurned.

31. The Solution of two linear equations

ax + by = c, px + qy = r

is given as x = cq – br / aq - bp , y = - cp / aq – bp

WAP to find the solution of any pair of simultaneous equations (linear) for the given values of a, b, c and q, r, p if aq – bp = 0 then print no finite solution.

32. WAP to find out the charge for sending parcels when the charges are as follows:

For the first 1 KG. or fraction there of Rs. 20.00

For every additional 1 KG. or every fraction there of Rs. 25.00

33. A sales man is paid commission on the following basis:

|  |  |
| --- | --- |
| **Sales** | **Commission Rate** |
| Upto Rs. 10000 | 2% |
| Rs. 10001 to Rs. 20000 | 3% |
| Rs. 20001 to Rs. 50000 | 5% |
| Rs. 50001 to Rs. 70000 | 8% |
| Above Rs. 70000 | 10% |

WAP to accept the sales amount and calculate the commission, print sale commission rate and commission.

34. WAP to comput the result of the following condition based expression :

F(x) = 4x + y if x>0

F(x) = 4x - y if x<0

35. A cloth showroom has announced the following festival discounts on purchase of items:

|  |  |  |
| --- | --- | --- |
| Amount of purchase | Discount in % | |
|  | Mill Cloth | Handloom items |
| Less than Rs. 1000 | 2% | 5% |
| Rs 1000 to Rs. 5000 | 20% | 25% |
| Rs. 5001 to Rs.10000 | 40% | 50% |
| Above 10000 | 50% | 60% |

WAP to compute the net amount paid by the customer. Assume all required values to be inputted by the user.