

## **PRACTICE QUESTIONS BASED ON UNIT -2**

### **(Arithmetic expressions & Conditional Branching: Arithmetic expressions and precedence):-**

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#### **C Programs based on decision control (if and else):-**

1. Write a C program to find maximum between two numbers.
2. Write a C program to find maximum between three numbers.
3. Write a C program to check whether a number is negative, positive or zero.
4. Write a C program to check whether a number is divisible by 5 and 11 or not.
5. Write a C program to check whether a number is even or odd.
6. Write a C program to check whether a year is leap year or not.
7. Write a C program to check whether a character is alphabet or not.
8. Write a C program to input any alphabet and check whether it is vowel or consonant.
9. Write a C program to input any character and check whether it is alphabet, digit or special character.

10. Write a C program to check whether a character is uppercase or lowercase alphabet.

11. Write a C program to input week number and print week day.

12. Write a C program to input month number and print number of days in that month.

13. Write a C program to count total number of notes in given amount.

14. Write a C program to input angles of a triangle and check whether triangle is valid or not.

15. Write a C program to input all sides of a triangle and check whether triangle is valid or not.

16. Write a C program to check whether the triangle is equilateral, isosceles or scalene triangle.

17. Write a C program to find all roots of a quadratic equation.

18. Write a C program to calculate profit or loss.

19. Write a C program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following:

Percentage  $\geq 90\%$  : Grade A

Percentage  $\geq 80\%$  : Grade B

Percentage  $\geq 70\%$  : Grade C

Percentage  $\geq 60\%$  : Grade D

Percentage  $\geq 40\%$  : Grade E

Percentage < 40% : Grade F

20. Write a C program to input basic salary of an employee and calculate its Gross salary according to following:

Basic Salary  $\leq$  10000 : HRA = 20%, DA = 80%

Basic Salary  $\leq$  20000 : HRA = 25%, DA = 90%

Basic Salary > 20000 : HRA = 30%, DA = 95%

21. 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

### C PROGRAM BASED ON SWITCH CASE:-

1. Using switch statement Write a C program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following:

Percentage  $\geq$  90% : Grade A

Percentage  $\geq$  80% : Grade B

Percentage  $\geq 70\%$  : Grade C

Percentage  $\geq 60\%$  : Grade D

Percentage  $\geq 40\%$  : Grade E

Percentage  $< 40\%$  : Grade F

2.C Program to find the maximum between two numbers.

Using the switch statement

3. C Program to find the maximum between three numbers.

Using the switch statement.

4.C Program to check whether a number is divisible by 5 and 11 or not. Using the switch statement.

5.C Program to check whether a year is a leap year or not.  
Using switch statement

6.C Program to check whether a character is an alphabet or not. Using the switch statement.

7.C Program to take the value from the user as input any alphabet and check whether it is vowel or consonant. Using the switch statement.

8.C Program to take the value from the user as input any character and check whether it is the alphabet, digit or special character. Using the switch statement

9. C Program to check whether a character is an uppercase or lowercase alphabet. Using the switch statement.

10.C Program to take the value from the user as an input week number and print weekday by using the switch statement.

11.C Program to take the value from the user as input the month number and print number of days in that month. Using switch statement

12. C Program to count the total number of notes in a given amount. Using the switch statement.

13.C Program to take the value from the user as input all sides of a triangle and check whether the triangle is valid or not. Using switch statement

14. C Program to check whether the triangle is an equilateral, isosceles or scalene triangle. Using switch statement

15.C Program to find all the roots of a quadratic equation. Using switch statement

16.C Program to calculate profit or loss. Using switch statement.

17. C Program to take the value from the user as input marks of five subjects Physics, Chemistry, Biology, Mathematics, and Computer. Calculate percentage and grade according to the following: Percentage  $\geq 90\%$  : Grade A,

Percentage  $\geq 80\%$  : Grade B,

Percentage  $\geq 70\%$  : Grade C,

Percentage  $\geq 60\%$  : Grade D,

Percentage  $\geq 40\%$  : Grade E,

Percentage  $< 40\%$  : Grade F,

Using switch statement.

18.C Program to take the value from the user as input the basic salary of an employee and calculate its Gross salary according to the following:

Basic Salary  $\leq 10000$ : HRA = 20%, DA = 80%.....

Basic Salary  $\leq 20000$  : HRA = 25%, DA = 90%.....

Basic Salary  $> 20000$  : HRA = 30%, DA = 95%.

19.C Program to take the value from the user as input electricity unit charges and calculate total electricity bill according to the given condition:

For the first 50 units Rs. 0.50/unit.....

For the next 100 units Rs. 0.75/unit.....

For the 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.....

Using the switch statement.

20. Write a program that determines a student's grade. The program will read three types of scores (quiz, mid-term, and final scores) and determine the grade based on the following rules:

if the average score =90% =>grade=A.....-

if the average score >= 70% and <90% =>  
grade=B.....-

if the average score >=50% and <70%  
=>grade=C.....-

if the average score <50% =>grade=F

21. Program to take the hours and minutes as input by the user and the show that whether it is AM or PM by using the switch statement.

22. Program to convert a positive number into negative number and negative number into a positive number using switch statement

## MCQS :-

1) Choose a C Conditional Operator from the list.

- A) ?:
- B) :?
- C) :<
- D) <:

2) What is the other name for C Language ?: Question Mark Colon Operator.?

- A) Comparison Operator
- B) If-Else Operator
- C) Binary Operator
- D) Ternary Operator

3) 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

#### 4) What is the output of the C statement.?

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

    return 0;
}
```

- A) 4
- B) 3
- C) 5
- D) 2

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

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

    return 0;
}
```

}

A) 04

B) compiler error

C) 40

D) 41

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

```
int main()
```

```
{
```

```
    int a=0;
```

```
    a = 5>2 ? printf("4"): 3;
```

```
    printf("%d",a);
```

```
    return 0;
```

```
}
```

A) compiler error

B) 14

C) 41

D) 0

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

```
int main()
```

```
{  
    int a=0;  
    a = (5>2) ? : 8;  
    printf("%d",a);
```

```
    return 0;
```

```
}
```

A) 0

B) 1

C) 8

D) compiler error

**8) What is the output of C Program.?**

```
int main()
```

```
{
```

```
    int a=0, b;
```

```
    a = (5>2) ? b=6: b=8;
```

```
    printf("%d %d",a, b);
```

```
    return 0;
```

```
}
```

A) 6 6

B) 0 6

C) 0 8

D) compiler error

**9) Choose a correct statement regarding C Comparison Operators.**

A)  $(x == y)$  Is x really equal to y.

$(x != y)$  Is x not equal to y.

B)  $(x < y)$  Is x less than y

$(x > y)$  Is x greater than y

C)  $(x <= y)$  Is x less than or equal to y.

$(x >= y)$  Is x greater than or equal to y

D) All the above

**10) Choose a statement to use C If Else statement.**

A) else if is compulsory to use with if statement.

B) else is compulsory to use with if statement.

C) else or else if is optional with if statement.

D) None of the above

**11) Choose a correct C Statement using IF Conditional Statement.**

A)

```
if( condition )
```

```
{
```

```
    //statements;
```

```
}
```

B)

```
if( condition )  
{  
    //statements;  
}
```

else

```
{  
    //statements;  
}
```

C)

```
if( condition1 )
```

```
{  
    //statements;  
}
```

```
else if( condition2)
```

```
{  
    //statements;  
}
```

else

```
{  
    //statements;  
}
```

D) All the above.

**12) What is the output of the C Program.?**

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

    return 0;
}
```

A) Yes

B) Hurray..

Yes

C) Hurray..Yes

D) Compiler error

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

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

```
printf("Yes");
```

```
return 0;
```

```
}
```

A) Yes

B) Hurray..

Yes

C) Hurray..Yes

D) No Output

**14) What is the output of the C Program.?**

```
int main()
```

```
{
```

```
if( 4 < 5 )
```

```
    printf("Hurray..\n");
```

```
    printf("Yes");
```

```
else
```

```
    printf("England")
```

```
return 0;
```

```
}
```

A) Hurray..Yes

B) Hurray..

Yes

C) Compiler error

D) None of the above

**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;
}
```

A) England

B) Hurray..

C) Compiler error for missing else

D) None of the above

**16) What is the output of C Program.?**

```
int main()
{
    if( 10 > 9 )
        printf("Singapore\n");
    else if(4%2 == 0)
        printf("England\n");
        printf("Poland");
    return 0;
}
```

A) Singapore

B) Singapore

Poland

C) Singapore

England

Poland

D) England

Poland

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

```
int main()
{
    if(-5)
    {
```

```
    printf("Germany\n");  
}  
if(5)  
{  
    printf("Texas\n");  
}  
printf("ZING");  
  
return 0;  
}
```

A) ZING

B) Texas

ZING

C) Germany

Texas

ZING

D) Compiler error as a number can not be put as condition inside IF.

**18) What is the output of the C Program.?**

```
int main()  
{  
    if(10.0)  
    {
```

```
printf("Texas\n");  
}
```

```
printf("ZING");
```

```
return 0;
```

```
}
```

A) ZING

B) Texas

ZING

C) Compiler error.

D) None of the above.

**19) What is the output of C Program.?**

```
int main()
```

```
{
```

```
if("abc")
```

```
{
```

```
printf("India\n");
```

```
}
```

```
if('c')
```

```
{
```

```
printf("Honey\n");
```

```
}
```

```
printf("ZING");
```

```
return 0;
```

```
}
```

A) ZING

B) Honey

ZING

C) India

ZING

D) India

Honey

ZING

**20) What is the output of C Program?**

```
int main()
```

```
{
```

```
    if(TRUE)
```

```
    {
```

```
        printf("India\n");
```

```
    }
```

```
    if(true)
```

```
    {
```

```
        printf("Honey\n");
```

```
}
```

```
printf("ZING");
```

```
return 0;
```

```
}
```

A) India

ZING

B) Honey

ZING

C) India

Honey

ZING

D) Compiler error

### Answers:-

1) A

2) D

3) A

4) B

5) D

6) C

7) B

8) D

9) D

10) C

11) D

12) A

- 13) A
- 14) C
- 15) A
- 16) B
- 17) C
- 18) B
- 19) D
- 20) D

**MCQs based on if and else:-**

**1) What is the output of C Program.?**

```
int main()
```

```
{
```

```
    int x=1;
```

```
    float y = 1.0;
```

```
    if(x == y)
```

```
    {
```

```
        printf("Polo\n");
```

```
    }
```

```
    if( 1 == 1.0)
```

```
    {
```

```
        printf("Golf\n");
```

```
    }
```

```
    if( 1.0 == 1.0f )
```

```
{  
    printf("Boxing\n");  
}  
return 0;  
}
```

A) No Output

B) Boxing

C) Golf

Boxing

D) Polo

Golf

Boxing

2) What is the output of C Program.?

```
int main()  
{  
    int a=9;  
    if(a=8)  
    {  
        printf("Kangaroo\n");  
    }  
    printf("Eggs\n");  
}
```

```
    return 0;  
}
```

A) No output

B) Eggs

C) Kangaroo

Eggs

D) Compiler error

**3) What is the output of C Program.?**

```
int main()  
{  
    int a=9;  
    if(a==5);  
    {  
        printf("Kangaroo\n");  
    }  
    printf("Eggs\n");  
    return 0;  
}
```

A) Eggs

B) Kangaroo

Eggs

C) No output

D) Compiler error

**4) What is the output of C Program.?**

```
int main()
{
    int a=9;
    if(a==9);
    {
        printf("Ostrich\n");
    }
    elseif(a==8)
    {
        printf("Eggs\n");
    }

    printf("White");
    return 0;
}
```

A) White

B) Ostrich

White

C) No Output

D) Compiler error

5) What is the output of C Program.?

```
int main()
{
    int a=9;
    if(a==9)
    {
        printf("Ostrich\n");
    }
    else;
    {
        printf("Eggs\n");
    }

    printf("White");
    return 0;
}
```

A) White

B) Ostrich

White

C) Ostrich

Eggs

White

D) Compiler Error

**6) What is the output of C Program.?**

```
int main()
{
    int a=9, b=5, c=8;
    a=b=c=10;
    if(a==9)
    {
        printf("Ostrich\n");
    }
    else
    {
        printf("Eggs\n");
    }
    printf("White");

    return 0;
}
```

A) Ostrich

Eggs

White

B) Ostrich

White

C) Eggs

White

D) Compiler error as you can not assign to more than two variables at once.

**Answer:-**

1) D

2) C

3) B

4) D

5) C

6) C

**MCQs based on switch case:-**

**1) What is the output of C Program with Switch Statement.?**

```
int main()
```

```
{
```

```
    int a=5;
```

```
switch(a)
{
    case 0: printf("0 ");
    case 3: printf("3 ");
    case 5: printf("5 ");
    default: printf("RABBIT ");
}
```

```
a=10;
switch(a)
{
    case 0: printf("0 ");
    case 3: printf("3 ");
    case 5: printf("5 ");
    default: printf("RABBIT "); break;
}

return 0;
}
```

A) 5 RABBIT

B) 0 3 5 RABBIT 0 3 5 RABBIT

C) 0 3 5 RABBIT RABBIT

D) 3 5 RABBIT RABBIT

**2) What is the output of C Program with switch statement.?**

```
int main()
```

```
{
```

```
    int a=3;
```

```
    switch(a)
```

```
    {
```

```
        case 2: printf("ZERO "); break;
```

```
        case default: printf("RABBIT ");
```

```
    }
```

```
}
```

A) RABBIT

B) ZERO RABBIT

C) No output

D) Compiler error

**3) What is the output of C Program with switch statement or block.?**

```
int main()
```

```
{
```

```
int a=3;
```

```
switch(a)
```

```
{
```

```
}
```

```
printf("MySwitch");
```

```
}
```

A) MySwitch

B) No Output

C) Compiler Error

D) None of the above

**4) What is the output of C Program with switch statement or block.?**

```
int main()
```

```
{
```

```
int a;
```

```
switch(a)
```

```
{
```

```
printf("APACHE ");
```

```
}
```

```
printf("HEROHONDA");  
}
```

- A) APACHE HEROHONDA
- B) HEROHONDA
- C) No Output
- D) Compiler error

5) What is the output of C program with switch statement or block.?

```
int main()  
{  
    int a;  
  
    switch(a);  
    {  
        printf("DEER ");  
    }  
    printf("LION");  
}
```

- A) LION
- B) DEER LION
- C) Compiler error

D) None of the above

Answers:-

1) D

2) D

3) A

4) B

5) B

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