Assignment - 3 A Job Ready Bootcamp in C++, DSA and IOT MySirG

Decision Control Statements

1. Write a program to check whether a given number is positive or non-positive.

ANS :-1

#include<stdio.h>

int main()

{

int x;

printf("Enter a number:");

scanf("%d",&x);

if(x>0)

{

printf("Number is positive");

}

if(x<=0)

{

printf("number is non positive");

}

return 0;

}

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

ANS :-2

#include<stdio.h>

int main ()

{

int x;

printf(" ENTER A NUMBER TO CHECK IT IS DIVISIBLE BY 5 OR NOT:");

scanf(" %d",&x);

if (x%5==0)

{

printf("NUMBER IS DIVISIBLE");

}

else

{

printf("NUMBER IS NOT DIVISBLE");

}

return 0;

}

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3. Write a program to check whether a given number is an even number or an odd

number.

ANS :-3

#include<stdio.h>

int main()

{

int x;

printf("ENTER A NUMBER :");

scanf("%d",&x);

if(x%2==0)

{

printf("THE GIVEN NUMBER IS EVEN NUMBER :");

}

else

{

printf("THE GIVEN NUMBER IS ODD NUMBER :");

}

return 0;

}

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4. Write a program to check whether a given number is an even number or an odd

number without using % operator.

ANS :-4

#include<stdio.h>

int main()

{

int x;

printf("ENTER A NUMBER :");

scanf("%d",&x);

if((x/2)\*2 == x)

{

printf(" %d IS EVEN NUMBER ",x);

}

else

{

printf(" %d IS ODD NUMBER",x);

}

return 0;

}

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5. Write a program to check whether a given number is a three-digit number or not.

ANS :-5

#include<stdio.h>

int main()

{

int x;

printf("ENTER A NUMBER :");

scanf("%d",&x);

if( x >99&&x<999)

{

printf("The given number is three digit number",x);

}

else

{

printf("The given number is not three digit number",x);

}

return 0;

}

6. Write a program to print greater between two numbers. Print one number of both are

the same.

ANS :- 6

#include<stdio.h>

int main()

{

int x,y; //numbers

printf("Enter a two numbers:",x,y);

scanf("%d%d",&x,&y);

if(x==y)

printf("the numbers are same",x,y);

else if(x>y)

printf("%d is greater than %d",x,y);

else

printf("%d is greater than %d",y,x);

return 0;

}

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7. Write a program to check whether roots of a given quadratic equation are real &

distinct, real & equal or imaginary roots

ANS :- 7

#include<stdio.h>

int main()

{

int a, b, c;

printf("Enter quadratic equations cofficent symultanously: ");

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

int d = (b \* b) - (4 \* a \* c); // D = b^2 - 4\*a\*c

if (d > 0)

printf("Roots are real and distinct");

else if (d == 0)

printf("Roots are real and equal");

else

printf("Roots are imaginary");

return 0;

}

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8. Write a program to check whether a given year is a leap year or not.

ANS :-8

#include<stdio.h>

int main()

{

int year;

printf("ENTER A YEAR:");

scanf("%d",&year);

if (year % 400== 0 || year%4==0)

printf(" year is a leap year ",year);

else

printf(" year is not a leap year",year);

return 0;

}

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9. Write a program to find the greatest among three given numbers. Print number once

if the greatest number appears two or three times.

ANS :-9

#include <stdio.h>

int main()

{

int a, b, c;

printf("Enter a three number: ");

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

if (a > b && a > c)

printf("Gretest number is: %d", a);

else if (b > c)

printf("Gretest number is: %d", b);

else

printf("Gretest number is: %d", c);

return 0;

}

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10. Write a program which takes the cost price and selling price of a product from the

user. Now calculate and print profit or loss percentage.

ANS :- 10

#include <stdio.h>

int main()

{

int cp, sp;

printf("Enter a cost price and selling price of product: ");

scanf("%d%d", &cp, &sp);

int amountAfterSelling = sp - cp;

if (amountAfterSelling == 0)

printf("No Profit or No Loss, Profit or loss % wil be 0%");

else if (amountAfterSelling > 0)

printf("Profit, Profit percentage is: %f", (amountAfterSelling \* 100.0) / cp);

else

printf("Loss, loss percentage is: %f", (abs(amountAfterSelling) \* 100.0) / cp);

return 0;

}

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11. Write a program to take marks of 5 subjects from the user. Assume marks are given out of 100 and passing marks is 33. Now display whether the candidate passed the examination or failed.

ANS :-11

#include <stdio.h>

int main()

{

int sub1, sub2, sub3, sub4, sub5;

printf("Enter 5 subjects marks out of 100: ");

scanf("%d%d%d%d%d", &sub1, &sub2, &sub3, &sub4, &sub5);

if (sub1 >= 33 && sub2 >= 33 && sub3 >= 33 && sub4 >= 33 && sub5 >= 33)

printf("Candidate is Passed!");

else

printf("Candidate is Failed!");

return 0;

}

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12. Write a program to check whether a given alphabet is in uppercase or lowercase.

ANS :- 12

#include<stdio.h>

int main()

{

char alpha;

printf("\nENTER ALPHABET :-");

scanf("%c",&alpha);

if (alpha >= 'A' && alpha <= 'Z')

printf("ALPHABET IS A UPERCASE ",alpha);

else

printf("ALPHABET IS LOWER CASE",alpha);

return 0;

}

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13. Write a program to check whether a given number is divisible by 3 and divisible by 2.

ANS :-13

#include<stdio.h>

int main()

{

int x;

printf("ENTER A NUMBERS :-");

scanf("%d",&x);

if ( x%3==0&&x%2==0 )

printf("Numbers Is Divisible",x);

else

printf("Number Is Not Divisible");

return 0;

}

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14. Write a program to check whether a given number is divisible by 7 or divisible by 3.

ANS :- 14

#include<stdio.h>

int main()

{

int x;

printf("ENTER A NUMBERS :-");

scanf("%d",&x);

if ( x%7==0&&x%3==0 )

printf("Numbers Is Divisible",x);

else

printf("Number Is Not Divisible");

return 0;

}

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15. Write a program to check whether a given number is positive, negative or zero.

ANS :- 15

#include<stdio.h>

int main()

{

int x;

printf("ENTER A NUMBER :");

scanf("%d",&x);

if(x>0)

printf("NUMBER IS POSITIVE",x);

else if(x<0)

printf("NUMBER IS NEGATIVE",x);

else

printf("NUMBER IS ZERO",x);

return 0;

}

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16. Write a program to check whether a given character is an alphabet (uppercase), an

alphabet (lower case), a digit or a special character.

ANS :- 16

#include<stdio.h>

int main()

{

char alpha;

printf("ENTER A CHARACTER :");

scanf("%c",&alpha);

if(alpha >='A' && alpha <= 'Z')

printf("%c-ALPHABET (UPPER CASE)",alpha);

else if (alpha >= 'a' && alpha <= 'z')

printf("%c-ALPHABET(LOWER CASE)",alpha);

else if (alpha >='0' && alpha<='9')

printf("%c-IT IS A DIGIT",alpha );

else

printf("%c-SPECIAL CHARACTER",alpha);

return 0;

}

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17. Write a program which takes the length of the sides of a triangle as an input. Display

whether the triangle is valid or not.

ANS :-17

#include <stdio.h>

int main()

{

int a, b, c;

printf("Enter a sides of trinagle: ");

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

if (b + c > a && a + c > b && a + b > c)

printf("Triagnle is valid!");

else

printf("Triangel is not valid!");

return 0;

}

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18. Write a program which takes the month number as an input and display number of days in that month

ANS :-18

#include <stdio.h>

int main()

{

// 31 - jan, march, may, july , Aug, oct, dec

int month;

printf("Enter month number: ");

scanf("%d", &month);

if (month == 1 || month == 3 || month == 5 || month == 7 || month == 8 || month == 9 || month == 11)

printf("31 Days!");

else if (month == 2)

printf("28 or 29 days depond on leap year!");

else

printf("30 days");

return 0;

}

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