**Assignment – 3 A Job Ready Bootcamp in C++, DSA and IOT**

**Decision Control Statements**

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

#include<stdio.h>

int main()

{

int a;

printf("Enter a number");

scanf("%d\n",&a);

if(a>0)

{

printf("Given number is positive");

}

if(a<=0)

{

printf("Given number is non-possitive");

}

return 0;

}

Output :Enter a number34

Given number is even

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

include<stdio.h>

int main()

{

int a;

printf("Enter a number");

scanf("%d",&a);

if(a%5==0)

{

printf("Given number is divide by 5 ");

}

else

{

printf("Given number is not divide by 5");

}

return 0;

}

Output :Enter a number 129

Given nuber is not divide by 5

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

include<stdio.h>

int main()

{

int a;

printf("Enter a number");

scanf("%d\n",&a);

if(a%2==0)

{

printf("Given number is Even");

}

if(a%2!=0)

{

printf("Given number is Odd");

}

return 0;

}

Output :Enter a number235

Given number is Odd

4. Write a program to check whether a given number is an even number or an odd number without using % operator

#include<stdio.h>

int main()

{

int a;

printf("Enter a number");

scanf("%d\n",&a);

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

{

printf("Given number is Even");

}

else

{

printf("Given number is Odd");

}

return 0;

}

Output :Enter a number355

Given number is Odd

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

#include<stdio.h>

int main()

{

int a;

printf("Enter a number");

scanf("%d\n",&a);

if(a>=100&&a<1000)

printf("Givin number is three digit number");

else

printf("Givin number is not three digit number");

return 0;

}

output :Enter a number2034

Givin number is not three digit number

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

#include<stdio.h>

int main()

{

int a,b;

printf("Enter two number");

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

if(a>b)

printf("%d is greater",a);

if(a<b)

printf("%d is greater",b);

else

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

return 0;

}

Output : Enter two number 55 55

55

7. Write a program to check whether roots of a given quadratic equation are real & distinct, real & equal or imaginary roots

#include<stdio.h>

int main()

{

int a,b,c,D;

printf("Enter values for a,b,c");

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

D=b\*b-4\*a\*c;

if(D<0)

printf("Imaginary root");

if(D==0)

printf("Equal root");

if(D>0)

printf("Real and distinct root");

return 0;

}

Output:Enter values for a,b,c1 5 3

Real and distinct root

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

#include<stdio.h>

int main()

{

int year;

printf("Enter a year");

scanf("%d",&year);

if(year%4==0)

{

printf("Givin year is leap year");

}

else

{

if(year%400==0)

printf("Givin year is leap year");

else

printf("Givin year is not leap year");

}

return 0;

}

Output:Enter a year1989

Given year is not leap year

9. Write a program to find the greatest among three given numbers. Print number once if the greatest number appears two or three times.

#include<stdio.h>

int main()

{

int a,b,c;

printf("Enter three number");

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

if(a>b&&a>c)

printf("%d is greater",a);

if(b>a&&b>c)

printf("%d is greater",b);

if(c>a&&c>b)

printf("%d is greater",c);

else

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

return 0;

}

Output : Enter three number 22 65 65

65

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.

#include<stdio.h>

int main()

{

float CP,SP,P,L,PP,LP;

printf("Enter number for Cost Price");

scanf("%f",&CP);

printf("Enter number for Selling Price");

scanf("%f",&SP);

if(CP<SP)

{

P=SP-CP;

PP=P/CP\*100;

printf("Profit %% is %f",PP);

}

else

{

L=CP-SP;

LP=L/CP\*100;

printf("Loss %% is %f",LP);

}

return 0;

}

Output : Enter number for Cost Price50

Enter number for Selling Price60

Profit % is 20.000000

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.

#include<stdio.h>

int main()

{

int i,j,k,l,m;

printf("Enter marks all 5 subjects");

scanf("%d %d %d %d %d",&i,&j,&k,&l,&m);

if(i>28)

{

if(j>28)

{

if(k>28)

{

if(l>28)

{

if(m>28)

printf("Canditate is \"PASS\" in exam");

else

printf("Canditate is \"FAIL\" in exam");

}

}

}

}

else

printf("Canditate is \"FAIL\" in exam");

return 0;

}

Output: Enter marks all 5 subjects34 45 56 67 78

Canditate is "PASS" in exam

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

#include<stdio.h>

int main()

{

int a;

printf("Enter any Alphabet");

scanf("%c",&a);

if(a>=65&&a<=90)

printf("Upper Case latter");

else if(a>=97&&a<=122)

printf("Lowre Case latter");

return 0;

}

Output : Enter any Alphabet A

Upper case latter

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

#include<stdio.h>

int main()

{

int a;

printf("Enter a number");

scanf("%d",&a);

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

printf("Givin number is Divisible by 3 and 2");

else if(a%3!=0&&a%2==0)

printf("Givin number is not divisible by 3 but divisible by 2");

else if(a%3==0&&a%2!=0)

printf("Givin number is divisible by 3 but not divisible by 2");

else

printf("Givin number is not divisible by 3 and 2");

return 0;

}

Output:Enter a number45

Givin number is divisible by 3 but not divisible by 2

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

#include<stdio.h>

int main()

{

int a;

printf("Enter a number");

scanf("%d",&a);

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

printf("Givin number is divisible by 7 and 3");

else if(a%3==0)

printf("Givin number is divisible by 3");

else

printf("Givin number is not divisible by 7 and 3");

return 0;

}

Outpt :Enter a number21

Givin number is divide by 7 and 3

.

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

#include<stdio.h>

int main()

{

int a;

printf("Enter a number");

scanf("%d",&a);

if(a>0)

printf("Givin number is Positive");

else if(a<0)

printf("Givin number is negative");

else

printf("Givin nuber is zero");

return 0;

}

Output:Enter a number-56

Givin number is negative

16. Write a program to check whether a given character is an alphabet (uppercase), an alphabet (lower case), a digit or a special character

#include<stdio.h>

int main()

{

int a;

printf("Enter a character");

scanf("%c",&a);

if(a>=65&&a<=90)

printf("Upper Case latter");

else if(a>=97&&a<=122)

printf("Lowre Case latter");

else if(a>=48&&a<=57)

printf("Digits");

else if(a==12&&a>128)

printf("Invalid character");

else

printf("Special character");

return 0;

}

Output: Enter a character%

Special character

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.

#include<stdio.h>

int main()

{

int l1,l2,l3;

printf("Enter lengh of side of a triangle");

scanf("%d %d %d",&l1,&l2,&l3);

if(l1+l2>l3&&l1-l2<l3)

{

if(l2+l3>l1&&l2-l3<l1)

{

if(l3+l1>l2&&l3-l1<l2)

printf("Angle is valid");

else

printf("Angle is not valid");

}

}

else

printf("Angle is not valid");

return 0;

}

Output : Enter lengh of side of a triangle6 8 5

Angle is valid

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

#include<stdio.h>

int main()

{

int month;

printf("Enter month number");

scanf("%d",&month);

if(month==1)

{

printf("1st month is January\n");

printf("There are 31 days in Jnuary");

}

if(month==2)

{

printf("2nd month is February\n");

printf("There are 28 days in February");

}

if(month==3)

{

printf("3rd month is March\n");

printf("There are 31 days in March");

}

if(month==4)

{

printf("4th month is April\n");

printf("There are 30 days in April");

}

if(month==5)

{

printf("5th month is May\n");

printf("There are 31 days in May");

}

if(month==6)

{

printf("6th month is June\n");

printf("There are 30 days in June");

}

if(month==7)

{

printf("7th month is July\n");

printf("There are 31 days in July");

}

if(month==8)

{

printf("8th month is August\n");

printf("There are 31 days in August");

}

if(month==9)

{

printf("9th month is September\n");

printf("There are 30 days in September");

}

if(month==10)

{

printf("10th month is Octomber\n");

printf("There are 31 days in Octomber");

}

if(month==11)

{

printf("11th month is November\n");

printf("There are 30 days in November");

}

if(month==12)

{

printf("12th month is December\n");

printf("There are 31 days in December");

}

return 0;

}

Output :Enter month number 6

6th month is June

There are 30 days in June