

Task 1 – 10 marks

1	=HLOOKUP(B3, \$B\$14:\$G\$15, 2, FALSE)*C3
	=HLOOKUP(B4, \$B\$14:\$G\$15, 2, FALSE)*C4
	=HLOOKUP(B5, \$B\$14:\$G\$15, 2, FALSE)*C5
	=HLOOKUP(B6, \$B\$14:\$G\$15, 2, FALSE)*C6
	=HLOOKUP(B7, \$B\$14:\$G\$15, 2, FALSE)*C7
	=HLOOKUP(B8, \$B\$14:\$G\$15, 2, FALSE)*C8

2 =SUM(D3:D8)

3	=IF(D3>=500, "Yes", "No")
	=IF(D4>=500, "Yes", "No")
	=IF(D5>=500, "Yes", "No")
	=IF(D6>=500, "Yes", "No")
	=IF(D7>=500, "Yes", "No")
	=IF(D8>=500, "Yes", "No")

4 =COUNTIF(E3:E8, "Yes")

OR

=COUNTIF(D3:D8, ">500")

5 =20%*D10*12

6 =-FV(1/12*3.88%, 3*12, 0, 30000)

7 =IF(B17*3 >=B19, "able", "unable")

OR

=IF(B19>B17*3, "unable", "able")

Task 2

Q8(a), (b), (c) – 7 marks

```
num_low = 0
num_med = 0
num_high = 0

number = int(input('Enter a positive integer: '))

while number != 0:
    valid = False
    while valid == False:
        if number < 0 or number > 100:
            print('Numbers must be between 1 to 100 inclusive')
            number = int(input('Enter a positive integer: '))
        else:
            valid = True

    if number > 0 and number <= 30:
        print(number, '- Low')
        num_low = num_low + 1
    elif number > 30 and number <= 70:
        print(number, '- Medium')
        num_med = num_med + 1
    elif number > 70 and number <= 100:
        print(number, '- High')
        num_high = num_high + 1

    number = int(input('Enter a positive integer: '))

print("There are", num_low, "number(s) in Low category")
print("There are", num_med, "number(s) in Medium category")
print("There are", num_high, "number(s) in High category")
```

Task 2

Q9 – 3 marks

```
num_low = 0
num_med = 0
num_high = 0

upper_limit = int(input("Enter a upper limit: "))

number = int(input('Enter a positive integer: '))

while number != 0:
    valid = False
    while valid == False:
        if number < 0 or number > upper_limit:
            print('Numbers must be between 1 to', upper_limit, 'inclusive')
            number = int(input('Enter a positive integer: '))
        else:
            valid = True

    if number > 0 and number <= 30:
        print(number, '- Low')
        num_low = num_low + 1
    elif number > 30 and number <= 70:
        print(number, '- Medium')
        num_med = num_med + 1
    elif number > 70 and number <= upper_limit:
        print(number, '- High')
        num_high = num_high + 1

    number = int(input('Enter a positive integer: '))

print("There are", num_low, "number(s) in Low category")
print("There are", num_med, "number(s) in Medium category")
print("There are", num_high, "number(s) in High category")
```

Task 3 – 10 marks

```
month_abbr = ['Jan','Feb','Mar','Apr','May','Jun',
              'Jul','Aug','Sep','Oct','Nov','Dec']

day = int(input("Enter the day: "))

# validate day #
while day < 1 or day > 31:
    day = int(input("Invalid date. Re-enter the day: "))

month = int(input("Enter the month: "))

#validate month
while month < 1 or month > 12:
    month = int(input("Invalid month. Re-enter the month: "))

year = int(input("Enter the year: "))

# validate year
while year < 1900 or year > 2200:
    year = int(input("Invalid year. Re-enter the year: "))

if day > 28 and month == 2:
    print('Invalid date!')
elif month in [4, 6, 9, 11] and day > 30:
    print('Invalid date!')
else:
    if day < 10:
        day = '0' + str(day)

    answer = str(day)+' '+month_abbr[month-1]+' '+str(year)

print(answer)
```

Task 4

Q11 – 11 marks (max)

- 1m - input code
- 1m - convert to upper case
- 1m - validate length
- 1m - validate colour code
- 1m - appropriate error messages
- 1m - input guess
- 1m - initialize number of guess
- 1m - loop for guess
- 1m - update number of guesses
- 1m - compare guess with code
- 1m - able to exit game when code broken
- 1m - correct output when code broken / incorrect guess
- 1m - correct output when 4 chances up

Q12 – 4 marks

Test123 `Player 1 - Enter the code: RPB
Must be 4-character
Player 1 - Enter the code: OIBR
Invalid code
Player 1 - Enter the code: GYBG
Player 2 - Enter your guess: OBGY
Incorrect
Player 2 - Enter your guess: RBGY
Incorrect
Player 2 - Enter your guess: BBGY
Incorrect
Player 2 - Enter your guess: RBBY
Game over!`

Test4 `Player 1 - Enter the code: GYBY
Player 2 - Enter your guess: GYYY
Incorrect
Player 2 - Enter your guess: GYBY
Code broken!`