

```
public class Message { ...../5
    private String text;
    private String date;

    public Message(String t, String d) { .....1
        text = t;
        date = d;
    }

    public Message(Message m) { .....2
        text = m.text;
        date = m.date;
    }

    public void display() {
        System.out.println(text + date); .....1
    }

    public String getDate() { .....1
        return date;
    }
}
```

```

public class SocialMediaAccount { ...../18

    private String userName;
    private String profileDesc;

    private SocialMediaAccount[] freinds; .....1
    private int nbF; .....1

    private Message[] arMes; .....1
    private int nbM; .....1

    public SocialMediaAccount(String u, String p, int size) { ...../4
        userName = u;
        profileDesc = p;

        freinds = new SocialMediaAccount[size]; .....1
        nbF = 0; .....1

        arMes = new Message[200]; .....1
        nbM = 0; .....1
    }

    public void displayMessages(String d) { ...../4
        for (int i = 0; i < nbM; i++) { .....1
            if (arMes[i].getDate().equals(d)) .....1+1
                arMes[i].display(); .....1
        }
    }

    public int countMessage(String d) { ...../6
        int nb = 0; .....1

        for (int i = 0; i < nbM; i++) { .....1
            if (arMes[i].getDate().equals(d)) .....1+1
                nb++; .....1
        }

        return nb; .....1
    }
}

```

```

public class FacebookAccount extends SocialMediaAccount { .....1 ...../3
    private boolean hasMessenger;

    public FacebookAccount(String u, String p, int size, boolean b) {
        super(u, p, size); .....1
        hasMessenger = b; .....1
    }
}

```

```

public class User { ...../14

    private String name;
    private SocialMediaAccount arrAcc[];
    private int nbSA;

    public User(String s, int size) {
        name = s;
        arrAcc = new SocialMediaAccount[size];
        nbSA = 0;
    }

    public SocialMediaAccount[] getAccounts(String d) { ...../7
        SocialMediaAccount[] res = new SocialMediaAccount[nbSA]; .....1
        int j = 0; .....1

        for (int i = 0; i < nbSA; i++) { .....1
            if (arrAcc[i].countMessage(d) > 0) { .....1
                res[j] = arrAcc[i]; .....1
                j++; .....1
            }
        }

        return res; .....1
    }

    public SocialMediaAccount mostActiveAccount(String d) { ...../7
        SocialMediaAccount mostActive = null; .....1

        for (int i = 0; i < nbSA; i++) { .....1
            if (arrAcc[i].countMessage(d) > 0) { .....1
                if (mostActive == null || .....1
                    arrAcc[i].countMessage(d) >
                    mostActive.countMessage(d)) .....1
                    mostActive = arrAcc[i]; .....1
            }
        }
        return mostActive; .....1
    }
}

```